HEARING

BEFORE THE

SUBCOMMITTEE ON FISHERIES AND WILDLIFE CONSERVATION AND THE ENVIRONMENT

OF THE

COMMITTEE ON MERCHANT MARINE AND FISHERIES HOUSE OF REPRESENTATIVES

ONE HUNDREDTH CONGRESS

SECOND SESSION

ON

THE RECENT CLOSURE OF COASTAL AREAS IN NEW YORK, NEW JERSEY, AND SOUTHERN NEW ENGLAND DUE TO MEDICAL WASTE AND SEWAGE CONTAMINATION

AND

H.R. 5231

A BILL TO AMEND THE MARINE PROTECTION, RESEARCH, AND CONTROL ACT OF 1972 TO STRENGTHEN PROHIBITIONS ON DUMPING INTO OCEAN WATERS, TO PROVIDE FOR RECOVERY OF DAMAGES ASSOCIATED WITH DUMPING WHICH AFFECTS OCEAN WATERS, AND FOR OTHER PURPOSES

SEPTEMBER 6, 1988—JONES BEACH, NY

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MEDICAL WASTE AND SEWAGE CONTAMINATION

TUESDAY, SEPTEMBER 6, 1988

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON FISHERIES AND WILDLIFE CONSERVATION AND THE ENVIRONMENT, COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Jones Beach, NY.

The subcommittee met, pursuant to notice, at 11:47 a.m., in Jones Beach, New York, Hon. Gerry E. Studds (chairman of the subcommittee) presiding.

Present: Representatives Gerry E. Studds, Norman F. Lent, and George J. Hochbrueckner.

Also present: Representatives Ray McGrath and Thomas J. Downey.

STATEMENT OF HON. GERRY E. STUDDS, CHAIRMAN, SUBCOMMITTEE ON FISHERIES AND WILDLIFE CONSERVATION AND THE ENVIRONMENT

Mr. STUDDS. The Subcommittee will come to order.

It's a pleasure to be here on Long Island at the request and invitation of Congressman Downey to deal with the subject matter that is unfortunately very close to all of us who live on or near the water.

In the interest of humanity, I'm going to dispense with an opening statement which has been thoughtfully and eloquently prepared for me, both because it's long and because it's sufficiently sharp in its attack of the Administration as to probably provoke even longer ones from colleagues here, so we'll forgo that.

This is my first return to Long Island where I was born and from which both of my parents come, so it's a nice and particularly auspicious occasion for me. Having flown this morning here from Cape Cod almost entirely over water, one gets a very moving impression of what this hearing is all about.

You all know why we're here. You all know that we have a problem before us, most particularly the problem of medical wastes on this and other beaches from North Carolina and Maine, most particularly in the New Jersey, New York, Connecticut, Rhode Island, Cape Cod areas most intensively.

You probably also know that while that is a problem that is particularly egregious in its impact and the resulting economic impact, it is ironically and sadly probably one of the smaller components of the overall problem of coastal pollution with which we must deal and which this Subcommittee has been seized for a great many

years and we're hoping to see some real results of that in the remaining frantic weeks of this Congress.

There's no reason to think that legislation with respect to ocean dumping of sludge and with respect to medical wastes cannot be enacted in the next 4 or 5 weeks that remain in this Congress.

Having said that, we will go onto the host member and the senior Republican on this committee, the Honorable Norm Lent.

[The statement of Gerry E. Studds follows:]

STATEMENT OF U.S. REPRESENTATIVE GERRY E. STUDDS, CHAIRMAN, SUBCOMMITTEE ON FISHERIES AND WILDLIFE CONSERVATION AND THE ENVIRONMENT

Good morning. Today, at the invitation of Congressman Tom Downey, the House Subcommittee on Fisheries and Wildlife Conservation and the Environment convenes for an oversight hearing on the extraordinary events that have plagued our shorelines this past summer. Today's hearing follows upon the close of a summer season that starkly demonstrates the price of neglect: from dying dolphins to garbage slicks to medical trash to raw sewage, the message is the same: what we give to the oceans, they will give back.

The washups of medical debris along our shorelines these past two years have closed beaches and rocked the confidence of coastal communities from New Jersey to Rhode Island. Predictable and avoidable, this summer's events reveal the price we pay for the absence of strong national leadership to protect our fragile coastal areas.

A year ago twenty-four U.S. Senators asked EPA to make uniform the haphazard patchwork of rules governing infectious wastes. Again and again, state representatives; hospital administrators; waste haulers; local officials and environmentalists have called for such controls. Still, the EPA has not acted.

Without any Federal standards governing disposal, public health is compromised by those who toss their trash over the side or ship it out of state to save a dollar. And without any system for tracking the waste path, law enforcement is left to chance alone. The Administration has refused to act.

Recent campaigning rhetoric cannot conceal a dismal record of neglect that extends far beyond the medical waste issue. For it is this same Administration that has refused to end the dumping of millions of tons of sewage sludge a year into the oceans just off this shoreline;

That has fought to expand the use of the oceans as a convenient and inexpensive waste-dump of first resort;

That sought to open the oceans to radioactive wastes and blocked efforts to impose a global ban on the same;

Tried to open the oceans to the burning of concentrated PCBs and other toxic poisons;

That vetoed the Clean Water Act because—so they said—we couldn't afford to protect our rivers and shoreline;

That told us the Federal government had no business helping communities build the sewage plants they so desperately need to control the ever-growing stream of wastes that are fouling our coastlines and suffocating our estuaries and shellfish.

And that has for seven years preached that the Federal government should cease worrying about coastal zone management because coastal problems are primarily of local concern.

Those of us who live on and near the oceans know better. Growing populations pressure our coastal areas as never before, demanding not denials but forceful leadership.

Our coastlines are valuable and vulnerable: the strength of our economy is inseparable from the health of our environment. Current campaign rhetoric notwithstanding, this Administration has argued for seven years that we can't afford to do more. The events of the past months have demonstrated the folly of that approach: in fact, we cannot afford not to do more.

Our purpose today is to solicit guidance on doing legislatively what should have been done administratively years ago; and that is, establishing a set of federal standards for the handling and disposal of medical wastes to reduce the risks of improper disposal and to enable us to track down those who would place our shorelines and livelihoods at risk. Moreover, we must devise a set of heavy sanctions to ensure that those who pollute will pay, and that those who lose their livelihoods are compensated.

Before turning to my colleagues for their opening statements and to our first panel, I want to extend my thanks on behalf of the Subcommittee to Commissioner Lehman for his generosity in allowing us the use of the park facilities. I can think of no other more fitting setting for today's hearing.

STATEMENT OF HON. NORMAN F. LENT, A U.S. REPRESENTATIVE FROM NEW YORK

Mr. LENT. Thank you very much, Mr. Chairman and members of the Subcommittee. It's a great pleasure for me to welcome you to Nassau County, Long Island for this important hearing on coastal pollution and the closure of some of our beaches due to pollution problems.

As a lifelong resident of Nassau County, I have seen the best and the worst of our coastal environment conditions.

Those of us who live on the Atlantic Coast have been aware for years of periodic wash-ups of all sorts of material, in many cases forcing temporary closure of some of our precious summer resort beaches.

I can recall being in another room in this very building back in 1976 when our Island was visited by massive quantities of garbage, and at that time U.S. Senator Jim Buckley chaired a series of hearings. At that time we had greaseballs, milk containers with New York City identifications on them, plastic tampon inserters, and other debris washing up on our beaches.

This year we also had garbage washing up on our beaches, what is different is this factor of medical waste as well.

So, I'm delighted that these problems are finally getting the attention they deserve from the Congress and most importantly, from our state and local governments, as well as the general public. Sadly, it appears that it took the appearance of medical waste matter, coupled with the threat of this terrible disease called AIDS, to get our governmental systems activated to put an end to these pollution problems.

We are all aware of the continuing debate and problems associated with the current practices of several municipalities in disposing of treated sewage sludge. I want to be sure that everyone is aware that what we are talking about today is the need to take corrective measures on an entirely different, unrelated waste management practice. All of us are encouraged by the recent signals from some of the municipalities in New York and New Jersey that they are prepared to take steps to end the ocean dumping of treated sewage sludge. I applaud those efforts.

However, what we now need to turn our attention to is the problem of the disposal, frequently illegal, of material in the ocean which has been responsible for the beach closures. The residents here in this community, as well as throughout Nassau County and other parts of Long Island, are only too aware of the problems of waste disposal and the potential for the contamination of our drinking water aquifer from landfills and other means of waste disposal. The state of New York enacted legislation phasing out Long Island landfills so that harmful substances will no longer percolate down into the groundwater.

The medical waste problem represents, as the Chairman has indicated, one more instance where our government officials will

have to focus on alternative methods of waste disposal. We must turn our attention to new methods of resource recovery. We need to minimize the materials that we throw away and properly handle those items that must be disposed of. Each community throughout the nation must come to grips with this problem so that we can bring some sense to the national problems of waste management.

Mr. Chairman, it appears to me we have an excellent group of witnesses testifying today. I look forward to hearing their testimony and having an opportunity to discuss these issues with them. I want to particularly welcome the County Executive of Nassau County, Tom Gulotta, and thank him for the presentation that he will be making.

Mr. Gulotta has worked closely over the years on a number of environmental problems in this county. He has been a leader in pushing for new methods of waste disposal here in the town of Hempstead, which has enabled the closing of a number of landfills in this county and we owe him a great deal of gratitude.

This hearing represents the beginning of the end for practices which have contributed to the degrading of our coastal environment. State and local officials, working with the federal government, must now make the hard decisions to develop new methods of waste disposal. In the context of these medical waste problems, we must develop legislation which will hold accountable those businesses and people involved with the disposal of this material.

I am tired of having Jones Beach closed because of careless handling of waste materials or even worse because some unscrupulous businessman is trying to make a fast buck from a waste disposal contract and dumps trash into the ocean to cut his costs. This beach is dear to me, my constituents who live here, and millions of Americans who come here to get away from the hustle and bustle of their daily lives. This is a resource to cherish and protect. It is time to reclaim this and all our other beaches from the ravages of pollution and the damage caused by the uncaring attitudes and actions of a few people.

Thank you, Mr. Chairman. I appreciate the opportunity to participate with you in this hearing and look foward to working with you and our other concerned colleagues to fashion legislation to solve these problems.

Mr. STUDDS. The gentleman from New York, Mr. Downey.

STATEMENT OF HON. THOMAS J. DOWNEY, A U.S. REPRESENTATIVE FROM NEW YORK

Mr. DOWNEY. Thank you, Mr. Chairman.

Let me first begin by thanking you for convening here and coming to Long Island. It was not your fault you were late and we apologize to the witnesses and to the guests at the hearing. Eastern Express has started a new service. It's same day baggage and it's taken a little while for them to get it working.

We have a problem on Long Island, and the problem exists from Maine to Maryland this summer with the garbage floating up on the beach, medical wastes, and in some instances, infectious wastes. It's frightening. It's even more frightening when you realize in a global context that this has been one of the hottest summers in re-

corded history. The last 130 years we've been recording global temperatures. Four of the hottest years have been in this decade.

It is not by accident that we have a drought of the magnitude that we have. It is not by accident that we have garbage on the beach, and it is not by accident that one out of every four Adirondac lakes do not have fish. These are problems created by man that can be solved by man. The question is turning our attention to it in a way that makes sense and that is sufficiently tough and smart to make a difference.

Your convening a hearing in Congressman Lent's district, in one of the most incredible public works projects in the 20th Century. This is a beach designed to provide opportunities for people to enjoy themselves and in the hottest summer in most of our memories, they didn't want to come here, they didn't want to bathe here, they didn't want to be here because they were afraid they might step on a needle or be infected by hepatitis or AIDS from a blood vial that they had seen.

We can make a difference. This hearing is part of understanding what the problem is and addressing to the people who are in a policy position to make a difference, some questions and provide us some answers.

Congressman Lent recognized a very fine county executive of Nassau County. Let me do the same by recognizing my friend and my county executive and my constituent, the new county executive of Suffolk County whose environmental record while a New York state assemblyman was outstanding and who brings to the task of cleaning up the environment his heart and soul and the dedication of the men and women of Suffolk County government to stand shoulder to shoulder in an attempt to deal with this problem. I welcome him.

And I thank you again Mr. Chairman, for convening this hearing so promptly. We decided to wait until the season was over, so that we have a full summer on which to assess what is happened. The season is over, and now it is time to answer some questions for the people and to ask them.

I would ask for your consent to put my full statement in the record.

Mr. STUDDS. Without objection.

[The statement of Thomas Downey follows:]

STATEMENT OF HON. THOMAS J. DOWNEY, A U.S. REPRESENTATIVE FROM NEW YORK

I want to thank Chairman Studds, Congessman Lent, and the Subcommittee on Fisheries and Wildlife Conservation and the Environment for holding this hearing on coastal pollution, medical wastes and the recent closure of coastal areas in New York, New Jersey, and southern New England.

If we look around us today we see one of the great public work projects of the century—Jones Beach—a great example of a resort for all people. This beach is one of Long Islands great assets. Yet for sometime this summer this beach has been strangerly empty.

The events of this past summer which have no dramatically brought the problem of coastal pollution to the forefront of public attention are not isolated incidents. But rather they are indicative of a dangerous situation that has persisted for too long. We must realize that, in the absence of strict regulations, blindly assuming that dangerous wastes are being properly disposed of does not work. Dumping our unwanted sewage in the ocean does not work. Hoping that antiquitated waste treat-

ment plants will be able to handle ever increasing flows of raw sewage does not work.

This summer's headlines did not tell of the crowds of people escaping the heat at the beach, but rather they told of used syringes, AIDS and hepatitis contaminated blood, crack vials, and medical supplies—the nightmares of today's society not safely labeled and disposed of but washing up on these beaches that our families vacation on each year. The story was repeated all along the coast from Massachusetts to Maryland. At each location local officials acted quickly to close and clean affected beaches until they were determined to be safe again—thankfully they were able to prevent any injuries from the waste.

But the medical tide has left behind a wake of damages that we are only beginning to add up. Beach attendance has fallen to half of last year's level. Even beaches that have remained open with no wastes have suffered from the dramatic drops in attendance as the public's confidence in the beaches erodes. Shore communities that depend on tourism for the bulk of their yearly income are suffering through one of the worst seasons in recent times. Local businesses see their livelihood washed out with the same tide that has left needles strewn on the beach. As more studies are conducted the effects of this medical tide will become clearer and undoubtedly worse.

What makes this situation worse is the inability of the authorities to identify a single source of the waste. Indeed, it seems quite clear now that there are multiple causes at work. Overflows in New York City's sewer system have undoubtedly flushed used syringes and crack vials into the ocean. The prevailing winds of this summer have forced these wastes to shore.

Questions need to be answered by the City of New York explaining why their sewer system continually overflows and pollutes our beaches. A stronger effort must be made by the City to solve these problems. They have been given enough time, we need solutions not excuses.

Although this is a problem that must be addressed, the more pressing problem involves the deliberate dumping of medical wastes in a effort to circumvent existing regulations or avoid he high cost of proper disposal. These unconscionable acts can not be tolerated. The illegal dumping of infectious medical wastes must be punished for the crime that it is—a felony. The responsible individuals must be subjected to the full force of the law.

If we reach only one conclusion from the events of this summer it is that the current system of handling medical wastes does not work. There are three steps that must be taken to rectify the current problems.

First, we must come up with a reliable and consistent definition for infectious waste. It can not be left to each state to come up with its own definition. A federal definition should be enforced by the Environmental Protection Agency.

Second, the Environmental Protection Agency should determine whether or not infectious waste should be classified as hazardous and treated accordingly.

Finally, a cradle to grave accounting of hazardous waste must be put into effect. Legislation like H.R. 5119 the Medical Waste Tracking Bill, which establishes a pilot tracking system administered by the EPA for New York and New Jersey is needed. The EPA must exend this tracking system to cover the entire nation. The confusing maze of individiual state regulations should be replaced by a clear, enforced national policy.

Although it is the medical waste that has garnered the mnost attention, a potentially more serious threat exists in the sewage wastes that have also inundated our shores. High fecal coliform ounts were a greater cause of beach closings than medical wastes and they pose a more realistic health threat. I applaud the efforts of local communities to make improvements in their waste treatment facilities. The sad fact is that under the current administration federal asssitance for community waste treatement facilities has been cut 59%. It is time that the federal govenment reevaluate its commitment to help local communities protect our previous waters.

Labor Day is often considered the end of summer, our children go back to school and our attention is again focused on our daily routines. The vacation at the beach are forgotten until next year. But this is not the time to forget the lesson of this past summer. We must move now to prevent the closings of our beaches due to medical and sewage wastes from occuring again. We must insure that medical waste is properly labled and that it is tracked from the moment of its use until it is incinerated or landdfilled. Waste treatment facilities and techniques must be updated to adequately process the volume and variety of wastes they receive.

The cold reality of this situation is that what we have seen this summer is just the tip of the iceberg. The junk that we dump in the ocean is not sinking to the depths "out of sight and out of mind." It is and will continue to wash up on our

shores all winter, all spring, once again next summer, and every summer after that unless we face reality and make the tough decisions that must be made. I am greatful to Chairman Studds for holding this very informative hearing and to the witnesses for their time and expertise. I look forward to addressing the issues raised here today with my colleagues in Washington.

Mr. STUDDS. Mr. McGrath.

STATEMENT OF HON. RAYMOND J. McGRATH, A U.S. REPRESENTATIVE FROM NEW YORK

Mr. MCGRATH. I want to thank you Mr. Chairman for convening this hearing of your Subcommittee here on Long Island, your district was contiguous and very close to mine and I ask your unanimous consent to insert my full statement into the record.

I would like to point out that while it is understandable for minimal amounts of natural pollution to wash ashore, what we've seen this summer was a rash of sewage containing syringes and blood vials and infectious medical waste, absolutely intolerable to those of us who live here on Long Island.

Long Island's most precious natural resources is its miles of rich, clean sandy ocean shoreline. The Island's beaches serve both as a recreation area and a leading economic base for the entire metropolitan New York area.

To have these beaches closed due to either human error or oversight is a hardship that the people of this region should not have to bear.

I'm sure the rest of my colleagues here from Long Island would agree with me that this has been a summer which all of us have been continually asked by our constituents what has happened to the condition of our beaches and why is it happening at this point in time.

I hope that this hearing will be able to bring out some testimony from some very fine witnesses as to what happened this summer. And frankly, what we as a Federal Government in concert with state government and local governments can do to prevent the kind of activity that we saw prevalent on our beaches this summer.

With that, I'd like to thank you again for coming to Long Island, showing your concern for the people of Long Island, the economy of Long Island and natural resources of Long Island by bringing this hearing to our shores.

Mr. STUDDS. I'll do anything to delay on the way back to Washington.

[The statement of Ray McGrath follows:]

STATEMENT OF HON. THOMAS J. DOWNEY, A U.S. REPRESENTATIVE FROM NEW YORK

First of all, I want to take this opportunity to thank my colleague from Long Island and the member from Massachusetts for holding this very important hearing, a hearing that may shed light on measures that we in Washington can take to prevent what happened at this very sight several weeks ago.

While at times it is understandable for minimal amounts of natural pollution to wash ashore, the recent rash of sewage containing syringes, blood vials and infectious medical waste is intolerabe. Long Island's most precious natural resource is its miles of rich, clean, sandy ocean shoreline. The island's beaches serve as both a recreation area and leading economic base for the entire Metropolitan New York area. To have these beaches closed due to human error or oversight is a hardship the people of this region should not have to bear.

I have been in touch—and I am sure the other members of this panel have also—with officials at the U.S. Environmental Protection Agency and the U.S. attorney's office in Brooklyn, urging them to conduct a full investigation into this matter. The perpetrators of this heinous crime should be penalized to the fullest extent of the law. Anything less than tha would invite adverse environmental implications to our Nation's shore.

In closing, I again want to thank the members who initiated this hearing and I look forward to working with them on this issue when we return to Washington.

Mr. STUDDS. Mr. Hochbrueckner, do you wish to make an opening statement?

Mr. HOCHBRUECKNER. Yes. Thank you very much.

STATEMENT OF HON. GEORGE J. HOCHBRUECKNER, A U.S. REPRESENTATIVE FROM NEW YORK

Mr. HOCHBRUECKNER. I'd also like to welcome you to Long Island. I know that you represent the district in Massachusetts which has Cape Cod, and I think you will find that our beaches clearly rival your own and we are delighted that you leave yours to come to visit ours.

Mr. STUDDS. The time has almost expired.

Mr. HOCHBRUECKNER. In any case, I welcome you to Long Island. Thank you for coming.

Certainly, Merchant Marine and Fisheries Committee that we sit on together I think has done substantial work in terms of the plastic pollution research and control act which you sponsored, and I think the world should note that.

This is a bill, now a law, the President did sign which will in fact assure that the dumping the plastic wastes into the ocean will not happen certainly by any of our U.S. flagships and certainly not within 200 miles of our coasts by foreigners.

Certainly we're very concerned about that. The reason you're here today is because we're so concerned about what has happened with our beaches in terms of the wash-ups that have occurred.

Certainly we need new legislation. Clearly, the tracking of medical waste is legislation that makes good sense. It must be put into place so that we can in fact find the culprits who are responsible for dirtying up some of the world's most beautiful beaches here on Long Island.

Certainly, the support of the legislation to ban the dumping of sludge is very important to Long Island, to our fisheries and certainly that's a bill that has passed Merchant Marine and Fisheries Committee and one that the Senate has already passed by 97 to nothing, so I would assume that it should do extraordinarily well in the House when it comes up for a vote.

Certainly, there's also legislation that my freshman colleague Joe Brennan from Maine has introduced, which would call for establishing marine research centers, 11 of them around our nation, and I'd like to see the one that will happen for New York to come to Long Island and hopefully come to Stony Brook University where we had resident a tremendous amount of experience and capability.

Certainly, I know all of us were chagrined when the Coast Guard budget cuts occurred. The $103 million cut was very painful to the Coast Guard, and the supplement appropriation bill restored 60 million. I think it's very important in terms of giving back to the

Coast Guard some of their capability to in fact enforce existing regulations.

I'd also like to cite a bill that I've introduced, H.R. 5000 which is the single most comprehensive bill relating to the waste stream and to the garbage that we produce in this nation, and it in fact is a bill that would reduce the quantity of the garbage that we produce and clearly change its composition, especially in the area of plastics.

I'm very pleased that most of the members here today are in fact sponsors of that bill. We already have over 50 sponsors from both parties.

I want to thank you for being here Mr. Chairman. There's much work to be done. Thank you for your sensitivity to Long Island as exhibited by your presence.

Mr. STUDDS. Thank you.

Let me say a few words about how we're going to proceed. I apologize for the lateness.

I had not only one, but two Eastern Express flights this morning, and the fact that we're here I think is quite wonderful.

We have a lot of witnesses. We have a finite amount of time, and we're going to ask by the staff to do what is difficult for those of us in public life in particular to do, which is to restrain ourselves and to be brief.

We're going to divide you into panels. The first panel before us is public officials at every level of government, and I know that each of you could speak at much greater length that you're probably going to be able to.

All of your statements will appear in the record and we have asked you to perform the herculean task if you possibly can of confining your oral summary and your oral presentation to no longer than 5 minutes each.

We have 6 members of the panel. We will proceed in the order in which your names appear on the panel, if that's all right you with, which goes from federal to county.

We'll begin with Mr. William Muszynski, Acting Regional Administrator of this Region of the Environmental Protection Agency.

Mr. Muszynski.

STATEMENT OF WILLIAM MUSZYNSKI, ACTING REGIONAL ADMINISTRATOR, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. MUSZYNSKI. Good morning. I am William Muszynski, Acting Regional Administrator of the U.S. Environmental Protection Agency, Region 2. Our region includes the states of New York and New Jersey, Puerto Rico and U.S. Virgin Islands. I am pleased to be here today and I thank the Subcommittee for the opportunity to discuss our region's perspective on the problem of coastal pollution and the recent beach closures in New York and New Jersey due to washups of medical wastes and elevated bacterial levels.

The focus of this session is how to protect the ocean from sources of such wastes, and I am going to talk about the various actions that EPA and the States are taking toward that end.

As you know, this summer has seen a proliferation of washups of garbage, including medical type waste, on beaches in New York

and New Jersey. Beginning in early June with the appearance of blood vials on New Jersey beaches, the washups continued, as medical waste and other debris appeared on Long Island beaches.

The waste included syringes, crack vials, firecracker debris and other garbage. The result was a spate of beach closings.

Since then, the washups have occurred on other Long Island beaches, on New York City beaches, particularly Staten Island and on some New Jersey beaches. Unrelated beach closures on Long Island's North Shore, New Jersey's Monmouth County beaches and beaches on Staten Island have been caused by elevated bacterial counts.

EPA Region 2 has been investigating the washups waste since similar events occurred last summer. Our annual helicopter ocean monitoring patrol is focusing on waste washups, augmented by our recently re-launched boat, the Clean Waters, which is jointly funded by EPA, New York and New Jersey, and which is used to spot and trace garbage spills and floating garbage slicks in the New York/New Jersey harbor. We have worked closely with other federal, state and local regulatory and enforcement agencies to coordinate the investigatory efforts.

In addition, because of the similar washups that occurred last summer from November 1987 through January of this year, we conducted extensive helicopter surveillance and on-site investigations to determine the sources.

We found that likely sources include improper landfill and transfer station operation, litter from pleasure and commercial boating, combined sewer overflow, storm water runoff, beach litter, rotting piers and old wooden boats in the harbor, and resuspension of high tides of floatable garbage previously deposited along underdeveloped shorelines.

While isolating the sources of the medical waste itself has proven difficult, we believe that most of the waste found on the beaches can be traced primarily to a small number of poorly operated clinics, home IV users, and drug addicts.

And, while some instances of illegal disposal have contributed to the problem, to date no investigation by EPA or other federal, state or local authority has identified a major illegal dumping episode.

We believe that most of the waste found its way into the water through combined sewer overflow, which occurs when rains overload local sewer systems and cause much debris that has collected there to be flushed out to sea.

Bacterial pollution has, for the most part, been attributed to localized sources of storm water runoff, including discharges from local lakes along the Jersey coastline. The bacteria comes from leaky sanitary sewer lines, cross connections of sanitary lines into storm sewers as well as animal droppings.

In addition, problems have been caused by temporary malfunctions at waste water treatment plants and pump stations, which cause the discharge of inadequately treated sewage.

Since the focus of this hearing is on medical waste, I will use the remainder of my testimony to discuss the latest developments and possible solutions to this problem.

We believe the medical waste problem can best be addressed from a land based perspective. The primary point of illegal disposal is the land based areas.

Our first step should be to define properly the extent and scope of the problem and to determine what is the appropriate management system to handle these wastes in a manner that protects human health and the environment. Any such management system would have to be supported by a strong compliance and enforcement system.

Medical wastes include a variety of materials such as packaging (wrappers from bandages and catheters), containers (IV bags, empty vials), and other disposable items and infectious wastes.

While hospitals, clinics and health care facilities may generate the vast majority of these wastes, medical wastes are also generated by physicians and other health professionals in private practice, home health care, in veterinary clinics and blood banks.

The appearance of medical waste paraphernalia on our beaches this summer is outrageous. It has robbed our citizens of their right to enjoy the ocean without feat, and it has robbed those who depend on tourist and industry revenues of their livelihood.

However, frightening as the wastes are, it is the infectious portion that are of the greatest concern. Health professionals have told us that exposure to infectious wastes that could result in disease transmission is more likely to occur in those occupational settings that generate, transport, store, treat or dispose of these wastes than in beach debris.

Nevertheless, the fear that the discovery of medical wastes instills in the public is sufficient cause to make sure that strong regulatory controls are in place governing the handling and disposal of these materials.

In addition, we need a highly visible and aggressive effort to educate those who generate, transport and dispose of medical wastes to conform to modes of practice and behavior that would result in a reduction of any potential risks that might derive from the improper handling and disposal of these wastes.

In New Jersey, there are approximately 130 hospitals, 200 diagnostic and treatment centers, 525 clinical labels and 800 health care facilities which generate medical wastes.

In New York State, there are 280 hospitals, 325 diagnostic and treatment centers, 500 clinical labs and 845 health care facilities which also generate medical wastes.

From these facilities, some 300,000 pounds per week of infectious wastes are being handled in New Jersey, and some 700,000 pounds per week are being handled in the New York City metropolitan area. The vast majority of these wastes are being disposed of out of State. Both States already have strong regulatory programs in place.

However, these regulatory programs do not address the disposal of the huge amounts of material that are produced by the 50,000 physicians and other private practitioners who operate in New Jersey or the 60,000 physicians and other private practitioners who operate in New York or the thousands of health industries such as blood banks and funeral homes which operate in both States.

Finally, these regulatory programs do not address the vast quantities of needles or syringes that are used in self administered situations whether in legitimate home care as in the case of insulin users, or by drug addicts.

The amount of wastes generated in these settings is hundreds of times greater than the wastes discovered to date. This situation is indeed alarming in its scope and complexity and warrants very careful analysis and planning by governmental agencies in obtaining the proper remedy.

To ensure that EPA efforts addressing the medical waste problem are coordinated within the Agency, the Administrator established a Medical Waste Task Force chaired by Acting Deputy Administrator Dr. John A. Moore. This task force will involve all the pertinent program offices within EPA and will coordinate a number of activities relating to various aspects of the medical waste management problem. EPA has an 8 point plan for resolving issues associated with medical waste. Such a plan consists of the following activities—defining medical waste, defining the problem, assessing State and municipal programs currently in place, evaluating management and enforcement authorities, assessing the need for tracking and reporting systems, coordinating an environmental/economic assessment, conducting management option analysis and providing education, information exchange and public outreach. Administrator Thomas has directed the task force to implement as many of the 8 points as possible before next summer.

As noted previously, we believe the current washups of municipal waste including medical wastes are due to a number of sources. Combined sewer overflows, stormwater runoff, beach litter, drug addicts and home users of syringes and general inadequate handling of solid waste are all probably contributing sources. We must also consider the alleged instances of illegal dumping to be an important factor.

To focus specifically on medical wastes, within the last 2 months the Region has conducted a series of meetings with environmental and health departments from New York and New Jersey and the city of New York. Both States have adopted emergency rule making under their Emergency Powers Acts to create a medical waste manifest tracking system that will monitor infectious waste from the point of generation to its final destination.

Both States' regulations will pertain to any facility or individual generating and/or transporting a minimum of 100 kilograms (220 lbs.) per calendar month and require the use of a four-page manifest tracking system. This system requires the generator, transporter, and disposal facility operator to complete specific portions of the manifest form which will ensure that the materials produced by our hospitals and large health care facilities and laboratories are handled safely and disposed of properly, minimizing any detrimental effect on human health and the environment. In both States, the generator will be responsible for receiving confirmation from the disposal facility that the waste was received and treated or disposed of.

Infectious waste generated in New York State is currently regulated under the Environmental Conservation Law by the New York State Department of Environmental Conservation and under the

Public Health Law by the New York State Department of Health. These laws took effect April 1, 1988. The Emergency Rule will effectively incorporate two additional requirements: (1) the four-page manifest tracking system, and (2) a labeling requirement for identification of generator's names and addresses imprinted or affixed to the infectious waste red bags.

In addition to its Emergency Rule, the State of New Jersey will introduce a permanent rule which is identical to the Emergency Rule. In addition, Comprehensive Rules will be introduced within 60 days. The Comprehensive Rules will include stringent guidelines for safe and effective treatment, packaging and handling of special medical waste, including the identification of bags and packaging of containers at the point of generation. We are also assisting the States in their efforts to implement emergency regulations for establishing a common definition of the universe of medical waste, which will help considerably in clarifying just what operations are subject to the rules of generators.

Additionally, the Region has scheduled a meeting with the States of Pennsylvania, Maryland, Delaware, Connecticut, Massachusetts and Rhode Island to discuss their systems and how they are compared to the New York and New Jersey systems. We will continue to assist the States in their efforts to implement emergency regulations for establishing a common definition of the universe of the medical waste, which will help considerably in clarifying just what operations are subject to the rules.

We strongly support the implementation of a coordinated regional tracking system under each State's respective emergency authorities as an intelligent first step to focus attention on this issue. To achieve this end, Region 2 brought together representatives from the States of New York and New Jersey to work out a uniform and consistent bi-state management program. As a result, on August 10, 1988, both States adopted Emergency Legislation to implement their programs, which included a manifest tracking system. We will continue to work with these States to determine the effectiveness of this effort.

Region 2 is also working with Regions 1 and 3 to convene a meeting of representatives from the States in those regions to set up an expanded coordinated effort.

In summary, we believe it is important to evaluate existing state and local regulations with respect to medical waste handling and disposal, to evaluate where improvements can be made, and to consider the need for any supplemental federal regulations in light of that evaluation. Our experience in Region 2 will be invaluable in this regard.

We can all agree that good management and regulation of medical waste handling and disposal is essential. It will continue to be of the highest priority to us in Region 2.

However, we must recognize that even the best tracking and manifest system for these wastes will be only a partial answer to the outrageous occurrences on our beaches.

As I pointed out in the beginning of my remarks, medical related waste is only one component of the much larger problem of floatables in general. Garbage washups have occurred for years and they will continue to occur even if we eliminate the medical waste issue.

The sources include combined sewer overflow, stormwater runoff, beach litter, litter from pleasure boats and other shipping and general inadequate handling of solid wastes at landfills and marine transfer operations.

Over the past two decades, our society has undertaken a major commitment to protect and enhance our environment. We have directed significant financial and human resources to the successful construction of sewage treatment plants, stricter controls on industrial discharges, and tighter regulations on ocean dumping.

However, the explosive growth and development occurring along our coastlines threatens the integrity of our estuaries, bays and marine waters and demands continued dedication and action.

As a society, we need to examine our interaction with the environment, how we develop our land and dispose of our wastes.

For example, the solid waste and floatables problem is aggravated by the dramatic increase in the use of disposables by all consumers, including in particular the medical profession, and the near crisis in the availability and cost of solid and infectious waste disposal options.

In this region, we have underway two important programs—the New York Bight Restoration Plan and the Hudson River Estuary Study that will help define the whole range of forces that are stressing our part of the ocean. I am hopeful these efforts will point to a series of solutions that will safeguard this vital resource over a long period of time.

Carrying out these solutions will require a concerted effort and commitment by all levels of government and by individual citizens who must become more aware of their own solid waste generation and disposal practices. We must insure that all wastes are properly managed to protect human health and the environment.

Thank you for your attention.

Mr. STUDDS. Thank you, Mr. Muszynski.

Mr. Langdon Marsh of the New York Department of Environmental Conservation.

Mr. Marsh?

STATEMENT OF LANGDON MARSH, EXECUTIVE DEPUTY COMMISSIONER, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Mr. MARSH. Thank you, Mr. Chairman. Also, welcome to New York.

It's hard to believe as we look over the beach out there and the shimmering waters and the crystal blue skies that we have the problem that we are here today to discuss. But we do, and I thank you for the opportunity to discuss it with you and to describe what we in New York are doing to deal with the problem and to recommend steps which could be taken at the federal level to handle this most difficult issue.

Beaches were closed for many reasons this summer. They were closed because of heavy garbage washups, some of which included medically related debris. They were closed because of high coliform bacterial counts, some of which were associated with sewage treatment plant bypasses or malfunctions, some of which were not.

Some beaches were closed as a precaution, because adjacent beaches had high coliform counts or because of a prior incident or because of the appearance of sewage related material.

Taken together, the garbage washups, medical wastes washups, sewage spills and high bacterial counts all had a synergistic effect on public perceptions. This resulted in the intense media coverage culminating in cover articles in the national magazines.

In terms of the public identification with the ocean and its concern for the integrity of the ocean, the public's reaction is understandable, even if the estimate of the public health danger was overdrawn by many.

We expect our beaches to be clean, healthy looking and attractive, and that's what brings people here and that's what brings the economic benefits associated with going to the beach.

The suspect causes of the beach pollution were many—combined sewer overflows, sewage bypasses, storm runoff, non-point sources, marine transfer of solid waste, beach-goers litter, recreational boat users' litter and sewage, cruise, commercial and military vessels' garbage disposal, land base littering and dumping and the possible illicit dumping of medical wastes.

The state took immediate and positive steps to address this problem. Commissioner Thomas C. Jorling immediately ordered the investigation of the beach washup incidents. The DEC investigators were successful in revealing several potential sources for the washups and are continuing to work with New York City investigators and others to determine the sources.

Governor Mario Cuomo proposed a series of a new initiatives to protect public health and safety from infectious medical waste otherwise known as redbag waste, including increased penalties for persons who illegally dispose of infectious materials and the elimination of the 100 kilogram exemption in the current law.

In addition to the emergency regulations, tightening controls on handling transportation and disposal of all redbag waste, the Governor obtained the authorization by the state legislature to spend up to $2 million in emergency funds to enhance the state's enforcement activities relating to redbag waste.

The Governor has recently announced the filing of those emergency regulations, imposing a strict manifest system to track redbag waste from source to final disposal. He was pleased to do that with Governor Kean of New Jersey which adopted similar regulations on the same day.

I will review the beach closings in summary, the specific sources of waste where they're known, and the steps New York State is taking to manage these problems.

As Bill Muszynski has mentioned, among the many causes is combined sewer overflows, especially in New York City, which is served by a storm water system that shares the same conduits as the sewer system. As a consequence, rain storms may overwhelm the capacity of the City plants to treat that additional water.

Obviously, that has a major impact. I won't go into it in detail in my oral remarks. I just point out that what the state of New York is doing about it is in cooperation with the City of New York, through its Department of Environmental Protection, to complete the identification phase of a project for implementation during the

90's, which will cost the City of New York about $1.2 billion and will begin its construction phase in 1991.

In addition to the combined sewer overflows, we have identified sewage treatment plant malfunctions which happen occasionally due to mechanical failures or inadequate maintenance. At least three of the closures this summer can be explained by a malfunction of sewage treatment plants. The malfunctions clearly are responsible for sewage related closures and add to the load of floatable debris including syringes.

What we're doing about that is to make provision for improved sewage treatment plant operation and maintenance to deal with this source of beach pollution. We do that through the national pollutant discharge elimination permits to the City and other municipalities.

With respect to runoff of storm water from paved and other nonporous areas, this contributes street litter, animal excretions and eroded soil to coastal waters. The State in meeting the goals of Clean Water Act of 1987 has drafted a detailed plan to control these non-point sources of pollution to all our surface waters including those along the coast.

The non-point pollution sources affect our beaches and waters. They're by nature diverse. The results are cumulatively large and difficult to control.

What the federal government can do about that is to appropriate adequate levels of funding necessary to implement an effective non-point source pollution control program. No money has been appropriated to date and we think that appropriation of some level is absolutely necessary.

With respect to solid waste, both marine transfer and disposal, there is a widely held misconception by many people, including some otherwise informed people, that garbage is dumped at sea, particularly by New York City. People observe barges going around the Harbor and assume that they wind up out in the ocean.

We know that isn't the case. There is some leakage at the points of transfer, but I'd like to say that we are pleased with the greatly improved solid waste handling operation by the City of New York at Freshkills. One must put into perspective that this facility has to handle up to 28,000 tons of garbage per day. If the City lost 1/100 of 1 percent of that, that still amounts to 2½ tons of garbage which is a fair-sized truck load. The amounts that we have found along our beaches are fairly small in volume. I'd just like to point out that the city does an enormously good job at handling that tremendous amount of waste.

There are some things that can be done, as I'm sure Mr. Sexton will detail, that include better handling of the special booms that are used to contain trash, better functioning of the skimmer boats which pick up trash that does escape and other operational changes and we will be working with the City of New York to continue along that track.

Another possible source is the large vessels which contribute to floatables to the ocean and therefore to beach washups. These include cruise ships, freighters and military vessels. As Congressman Hochbrueckner has mentioned, we were very pleased to see the ratification of the MARPOL annex to the International Treaty

which bans ocean disposal of plastics, and we believe that in order to properly implement it, there need to be additional incentives, low cost loans to construct on board and dock site incinerators and considerable additional enforcement resources to the Coast Guard.

An additional source is litter by recreational boaters and casual disposal of trash by beachgoers. What we need to do there is to improve our public education program which we have instituted. This consists of posters, brochures, speaking before civic groups and so on to reflect the commitment of the state and local governments to deal with the problem.

Turning to illegal dumping of medical waste, I would second what Bill Muszynski has said, that we have no strong direct evidence of illegal dumping of medical waste into coastal waters. There certainly is continuing evidence of illegal disposal of that material on land for nearly all of the categories that we have looked at, and it's not at all impossible that some of that is going on directly into the water.

Obviously we need to improve our enforcement, to hold the dumpers responsible once we catch them. The new emergency regulations I mentioned will go some way along that road, and the new legislation which the Governor is about to sign will significantly increase both civil and criminal penalties for illegal handling of infectious wastes. It will increase fines up to $25,000 for a first offense and up to $50,000 for a subsequent offense and make that punishable as a felony which may involve some jail time.

As I mentioned before, the bill will remove the 100 kilogram exemption from the transporter requirements, which will mean that even small generators of medical waste, such as physician offices and dentists will be brought within the manifest system.

Some other activities of the state include a recent report by the Department of Health which recommends regional solutions to the medical waste problem, including the incineration of medical waste in high temperature waste to energy facilities.

Just a week or so ago, Commissioner Jorling announced the issuance of final regulations on the handling and disposing of all solid waste which we believe are the toughest regulations in the country. They include stringent new provisions on incineration of both ordinary trash and medical waste, and they include significant provisions to encourage the minimization and recycling of all solid waste.

Just to summarize the recommendations we have for the federal government, we believe that the full amount of the remaining construction grants program should be appropriated which will go a long way to upgrade remaining sewage treatment plants, to handle increased loads during rainfalls.

We believe the non-point source program should be funded at an appropriate level and the Coast Guard should be given additional resources to enforce the MARPOL annex. Consideration should be given to some incentive programs. Certainly legislation to require a national system of infectious waste regulation should be enacted.

Thank you very much.

[The statement of Langdon Marsh can be found at end of hearing.]

Mr. STUDDS. Thank you, Mr. Marsh.

Next, Mr. Brian McLane of the New York State Office of Parks, Recreation and Historical Preservation.

Mr. McLane?

STATEMENT OF BRIAN McLANE, NEW YORK STATE OFFICE OF PARKS, RECREATION AND HISTORICAL PRESERVATION

Mr. McLANE. Thank you. Mr. Chairman and members of the House Subcommittee on Fisheries and Wildlife Conservation and the Environment, I regret that at the last moment it became impossible for Commissioner Lehman to join you today. I can assure you that he recognizes the vital importance of this hearing.

However, his presence was required in Albany to ensure a quorum for an important vote by the State Environmental Board on pesticide regulations.

My name is Brian McLane, and I serve as Assistant Commissioner for Governmental and Community Affairs within the New York State Office of Parks, Recreation and Historic Preservation. On behalf of Commissioner Lehman, I am very pleased to welcome you to Jones Beach State Park, a very important facility both on Long Island and to the New York State Park System.

Because of this importance, we have invested more than $26 million over the past few years in the rehabilitation of this beautiful, aging and heavily used facility.

I am also pleased today to offer Commissioner Lehman's testimony on the recent washup of medical waste and sewage which caused the closing of pre-eminent beaches at Jones Beach, at Robert Moses State Park and indeed, along the eastern coast from New England to the mid Atlantic states.

The particular incidents with which we are concerned today began on July 6 and have continued, in varying degrees, along the coast ever since. The debris was made up of items including syringes, plastic tubing, fireworks casings, containers believed to be crack vials, larger vials, some containing substances which were confirmed to be blood, and assorted plastic, floatable materials such as tubing, gloves and garbage bags.

Of course, our immediate concern was for the safety of our patrons and this concern occasioned the closing of our beaches for two days. Because of this brief closure, our attendance was effected drastically—by as much as 70 percent for the two days, and by as much as 50 percent for the month of July. Even though the water quality was excellent, the public obviously felt at risk.

During the crisis period, we experienced wonderful cooperation from the localities whose beach areas were also being impacted by this debris, as well as the U.S. Coast Guard, the county health departments, the Department of Environmental Conservation, police agencies and a group of which Commissioner Lehman is particularly proud—Long Island State Parks employees. Park employees worked long and hard to locate and remove the debris from our beaches, turn it over to the proper authorities, and with great sensitivity, dealt with thousands of disappointed bathers.

As a point of reference, you should know that at Jones Beach on a hot, sunny summer weekend day, we have often hosted over 200,000 people. At no time this summer have we come anywhere

near this figure. The New York State Park system serves as the cornerstone to the tourism industry in New York State.

The washup of debris has had a substantial impact on recreation and tourism on Long Island as well as on the region's economy. According to a recent Newsday article, travel and tourism add approximately $6.5 billion to the Nassau/Suffolk county economy. It accounts for over 95,000 jobs on Long Island, and travel and tourism employment accounts for $1.1 billion of the region's $18.7 billion non governmental payroll.

The businesses who depend so heavily on recreational beaches and tourism for their livelihood, including commercial fishing industries, have suffered substantially. We can only surmise that until resolved, this problem will have a devastating effect on the economies of those localities in the New England to mid Atlantic corridor who are so dependent on travel and tourism.

The mission of our State Parks agency is to provide safe and enjoyable recreational opportunities for all New York State residents and visitors and to be responsible stewards of our valuable natural resources. We can hardly fulfill this mission on behalf of all our people if we are continuously plagued by the possible criminal activity of those who would jeopardize the public health and safety, without consideration of the impact of their actions. The public's safety must always be our predominant concern.

All of those organizations, institutions and individuals who responded to this crisis are of course, to be commended, and we have been able to sharpen our cooperative crisis management skills, but this episode need not have occurred. How close have we actually come to a tragedy? Are we willing to take the risk that this episode will not be repeated? What must we do?

We applaud Governor Cuomo's recent statement that our state will not tolerate the degradation or blighting of our natural resources by the criminal or the careless. The Governor has proposed a program of dramatically increased enforcement and penalty for those who dispose of infectious and potentially harmful material. He has directed our Environmental Conservation, Health and Parks commissions to develop an action plan for response to these types of emergencies, to include all levels of government, to ensure our capability to deploy the necessary personnel and equipment to any oceanfront area or community on quick notice. We are committed to working closely with DEC, the Department of Health, the Department of Law and any other agency that can assist in resolving this tragic circumstance.

The federal government must be an equal partner in this and all the similar undertakings in states along the east coast. Clearly, this is not a problem which New York State alone suffers. The power of federal regulatory authority must be brought to bear, in a coordinated way, with state and local initiatives so that truly comprehensive prevention and enforcement can be realized. We support DEC's recommendations to you regarding federal actions and possible legislation.

I would in conclusion, suggest to you that to have medical debris and sewage washing up on our beaches is absolutely unacceptable. We are allowing waste to destroy some of the most beautiful, God given recreational areas in the world.

Sadly, this comes as no surprise. We have been continuously warned by reputable scientists. No one seems to be able to tell us the source, or if this was a once in a lifetime occurrence, or if we will be required to close beaches more or less regularly. It is disgraceful that, in this scientific age, we are unable to control our own pollution.

The responsibility for locating the source and for its elimination must be firmly fixed. We are not looking for scapegoats. But we must work together, provide the funding and end this terrible blight. Anything else would be intolerable and too sad to contemplate.

I would respectfully remind the Subcommittee that this was the substance of Commissioner Lehman's testimony here on Long Island twelve years ago in 1976, when sludge and floatable garbage washed up on Long Island beaches causing them to be closed. It is clear that we must work far more diligently and that to protect our future, we must act now.

Thank you.

Mr. STUDDS. Thank you, sir.

Next, Mr. Brendon Sexton, the Commissioner of the New York City Department of Sanitation.

Mr. Sexton?

STATEMENT OF BRENDON SEXTON, COMMISSIONER, DEPARTMENT OF SANITATION, CITY OF NEW YORK

Mr. SEXTON. Thank you very much, Mr. Chairman and members of the Committee. I will summarize as quickly as I can my written statement, which is available.

First, you should know that in New York City, we're in an unusual position in that we have in fact fairly strong legislation covering infectious wastes and categorically we call potentially infectious wastes, which is the point I'll make at the end of my remarks. The potentially infectious wastes category includes much of what people have been worried about this summer and much of what they think of as medical waste and is not covered by infectious regulations and definitions.

Even things like needles, blood soaked gauzes, etc.—they are not from patients with infectious diseases. Are probably not classed as infectious wastes anywhere in this country. In fact, all that waste has probably gone to landfills right now, except in New York City.

The non infectious waste from hospitals and medical centers in New York can be handled by the municipal system, but that includes only office wastes, cafeteria waste, food service products, and so on. Hospitals produce enormous quantities of this sort of stuff.

The potential infectious and infectious waste must in New York be sent off to an incinerator, redbag incinerator carried by a licensed redbag carter. There are no such incinerators in New York City as I think you probably know, and this is one of the reasons for our support of federal environment.

Almost any legal and responsible management of this waste involves certainly crossing county line and probably state lines. And that's true not just in this region, but it's true in much of the United States. Up and down the East Coast, the infectious waste

incinerators are few and they are all import wastes from other states as far as I know, certainly from other counties.

In our city, potentially infectious waste is also carried this way, although I think that the beach waste this summer is probably in a particular and peculiar category, must of what we're talking about is potentially infectious waste, as opposed to infectious waste.

This summer's incident involved a particular peculiar recurring kind of waste, which is of very concern to all of us, and that was especially concentrated series of events. Especially concentrated floatation of syringes and blood vials. Furthermore, we all noted that the blood vials had a very abnormally high percentage of hepatitis B and AIDS positive on test. This is true in Long Island, New York and New Jersey, suggesting that we had not simply an accidental occurrence to deal with.

All of the sources quoted so far by the federal and state authorities are quite true. You can get waste in the water by all means described, and in fact we're probably getting at least some waste in the water right now from the heavy rain last night, through storm water runoffs and so on.

To get waste like that which arrived this summer, especially things like the blood vials, which are not easily thought of as wind blown litter, probably involved a conscious act. Our department has as you know, a specialized police unit. The environment of police consists only of 13 officers and 6 attorneys. We're now expanding it in New York City. We bring about 100 cases a year. That's about 2 a week. Most of our cases are either medical waste or asbestos cases.

When the summer instances began, this unit began working with the rest of our department, also the city's department of parks, police, health and environmental protection. I especially want to call attention to the fact that we had no trouble securing great cooperation from the state department of environmental conservation, the U.S. EPA, the district attorney's local and the U.S. district attorney for the eastern district.

There has been no jurisdictional problems. The EPA, the prosecutors, FBI and the state guys have all worked with us very well.

We were very excited for us to find some pill vials among the waste. We thought this is wonder, a detective's dream. A clue that comes with a name and address on it and a date. As you probably heard, these included one that was thrown out a year and a half before in the trash, one that was left on the beach, one that a person thought fell out of their pocket when they were on the boat, one that was accidentally dropped from a pier.

My favorite was we found a bottle from Catskill, New York very clearly labelled. I thought I had discovered someone using the Hudson River as a conduit for waste. It turned out it was a tugboat worker who had been on strike 6 months earlier and whatever he left on the boat the owner threw in the water. That turned out to be a set of clues which were not clues.

The rest of the stuff has been difficult to track down, but we do in fact have an idea who at least some of the people mishandling this waste are, and by the nature of the waste, we think we can be fairly sure of particular parts of the industry.

We also of course have had informants who have helped us greatly, but as we've said, it may be difficult to ever find any person or group actually in the act, catching them in the act of putting anything in the water.

Until the government's proposals, there wasn't a felony for these offenses. If we found somebody in the act, we could get a federal case out of it, but other than that, we could not get a felony. We have been lucky to have a similar law in New York called Local Law 57 which we are now stiffening. It now provides penalties from $2500 for a first offense to $10,000 for the third or further offenses. But I do think there are other steps that could be taken.

First, we know very little about this material that is shocking. Investigators, most of our colleagues and other agents were shocked to realize how much we had to learn when we started to investigate the summer's cases. I remember how excited we were when the blood vials that washed up Bayonne, New Jersey turned out to be of a much rarer type than the blood vials that had been found elsewhere. It turned out that a rare kind of blood vial meant there were only one million a day manufactured instead of six million a day.

We don't know where the stuff is made, we don't know how it's distributed, we don't know who uses it or where it goes.

The federal role in the manifest system can't be over emphasized. I believe that you are to be commended and that federal government generally is to be thanked greatly for introducing Congress, for getting interested in the federal system of manifesting, otherwise I'm quite certain that our local attempts to manifests would just be bypassed.

I'd also like to point out that the more we regulate, the more difficult and expensive it becomes to get rid of this material legally. That is if in fact we are successful in forcing people into redbag incinerators and so on, the cost is going to be enormous and the incentive to dump illegally to increase.

Right now we estimate it costs as much as $1 a pound to get rid of this material. We need better rates to get rid of it, and to make those ways available to the medical industry.

We would like the federal government to help us promote, encourage hospitals and health care facilities to install on premises state of the art incinerators and to provide exemption for these facilities from air pollution offset requirements. I think the best thing that can happen to this waste is that it never leave the premise where it was generated, that it travel very level indeed. It should not travel down the block if it can be avoided. To dispose of it at the hospital would be cheaper for the medical industry and I think much safer. However, there is an air pollution issue. I believe that the amount of solid waste which is classified as medical waste is so minuscule compared to the solid waste burden in America, that the air pollution impact is clearly diminuous. This is a very tiny fraction, the waste we have to deal with. It accounts for a very huge fraction of the public concern about waste.

I believe the air pollution impact would be very small indeed and consideration ought to be given, if not ignoring it, at least dealing with it differently from how other incinerator issues might be dealt with. I say that as a person who is promoting general solid waste

incinerators and who is therefore in some competition with medical waste incineration. I believe in medical waste incineration. I believe it should never come into my system.

That gets to the final point, which is discussing potential infectious waste. I would like to encourage everybody else to—people understand that much of the material classified as infectious waste—let me put it differently.

Much material not now classified as infectious waste is precisely material of concern to people. When a syringe or blood vial is discovered on the beach, no one has time to test whether or not it had hepatitis in it or some other infectious component. But in fact, blood drawn from someone who is not known to be carrying a communicable disease is not now infectious waste and could be disposed of in regular garbage anywhere in the country as far as I know other than New York City.

Certainly with the cost of redbag waste, and without prescriptions on potentially infectious waste, nobody in the medical industry that I know of is looking for ways to include more and more their business in the redbag, the infectious waste category. We have to look for that for them and we have to insist that those definitions get broadened.

[The statement of Brendon Sexton can be found at the end of the hearing.]

Mr. STUDDS. As we go to the two county executives, let me assure you that on the drive from the airport I was lectured at some length by Congressman Downey that to hear witnesses in the order of federal to state to county, and not necessarily to go from top to bottom in terms of consequence. That is understood.

First, Mr. Patrick Halpin, the Suffolk County Executive.

STATEMENT OF PATRICK G. HALPIN, COUNTY EXECUTIVE, SUFFOLK COUNTY, NY

Mr. HALPIN. Thank you Chairman. I appreciate this opportunity to testify before your committee and also to address the other members of your committee.

Thank you for giving me the opportunity of speaking with you today about what is rapidly becoming known as the infamous Summer of 1988.

One hundred years after the fact, the Blizzard of 1988, that's 1988, is still remembered with dread by New Yorkers. Unfortunately, the Summer of 1988 may receive similar recognition in the history books.

But I hope that by our actions here today and the actions of responsible legislators at the federal, state and local levels, the Summer of 1988 will be remembered much the same as the Blizzard of 1988—as a once in a lifetime happening.

I won't take up your time recounting the by now all too familiar incidents of washups on our beaches of medical and other wastes except to tell you that I was personally repulsed by the items I inspected on July 10, 1988 when Suffolk County was forced to close its largest and most popular ocean beach, Smith Point Beach on Fire Island.

Blood encrusted syringes, plastic medical tubing, bandages and even vials of blood soiled our beach. I saw first hand the anger and frustration of Suffolk residents when they were denied the opportunity to swim at their beach and as they faced the consequences of our sometimes heedless use it and pitch it society.

All of us as public officials must recognize what those experts in the field tell us and that is that the fear is much greater than the reality.

Medical waste on our shores is ugly and repulsive, but it is more of a threat to public safety than it is to public health.

Let me speak plainly—there is only one major difference between the severe washups of 1976 that afflicted our area and those of the summer of 1988—the fear of contracting AIDS.

Fear of AIDS has reached almost hysterical proportions in many areas. As public officials, we must use all of our efforts to educate the public about how AIDS is contracted.

We must act prudently and responsibly to inform the public that AIDS is not contracted from beach side syringes.

We must quench this inferno with education, not inflame it with irresponsible rhetoric.

A couple of general points on coastal pollution—it is clear that the sources of the problem are regional. What's dumped within a 100 mile radius can turn up on anyone's beaches. Solutions must be regional.

Although I speak to you as the County Executive of Suffolk County, I am well aware that similar problems are confronting my counterparts in coastal communities across the nation from Boston to San Diego and from Miami to Seattle.

I'd like to be a little parochial for a moment. Although Suffolk County is a wonderful place in which to live or do business, it probably is best known around the country, indeed the world, for the Hamptons and Fire Island and their pristine beaches.

This ad prepared by the Nassau/Suffolk departments of economic development tells it like it is—liquid assets. That's what our beaches and our waters are to Suffolk County and throughout Long Island.

Nobody knows exactly the scope of the economic consequences of the Summer of 1988. But we do know that they have been enormous.

Beach attendance and related activities plummeted. Nearly 35 percent of the ocean and bays and beaches along the Long Island Sound and Suffolk County have been closed for a day or more this summer. Consumption of fish and shellfish dropped off precipitously as a panicked public reacted to the grisly events unfolding before them on TV and radio and in the pages of their newspapers and magazines.

The $6 billion a year tourism economy on Long Island is still reeling. It has been estimated that the loss of visitors to Long Island alone has cost our regional economy a minimum of $50 million.

In addition to the dollar loss, Long Island also suffered painful personal losses as jobs vanished and investments of a lifetime in fishing boats and equipment were wiped out. Those who go down to the sea in Suffolk are hurting, and they are hurting badly.

On behalf of the people of Suffolk County, I implore you, we need your help and we need it fast.

And by the rarest of coincidences, I happen to have a few suggestions that I think may contribute to our communal goal of avoiding a repetition of the Summer of 1988.

On the most basic level, we must dramatically reorder our society's use it and pitch it mentality. Quite simply, we must throw away less and recycle more.

Suffolk County has already begun this task by banning the use of styrofoam and polyvinylchloride food containers and the use of plastic bags in supermarkets.

And last week the legislature approved legislation calling for deposits on automobile batteries. This kind of legislation is needed on the federal level to encourage recycling and the use of biodegradable materials.

Ocean dumping of sludge must end. The Congress voted to do so 11 years ago and it's still going on. While many experts contend that the dumping of sludge 106 miles at sea has not contributed to the problem of floatables washing up on our beaches, those in the fishing industry suspect it is connected to burn spots and fin rot that has begun appearing on some fish and shellfish.

Congress should do what governments everywhere are supposed to do—help those who are unable to help themselves. I speak specifically here of the need for a resumption of federal grants to upgrade sewage treatment plants and sewer systems.

Few experts will contest that a major source of floatables is the New York/New Jersey metropolitan area. Our major cities, already burdened with enormous costs in other areas, have simply been unable to afford the estimated $9 to 12 billion costs of bringing their sewage treatment plants and sewer systems into compliance with the law.

The fact is each time it rains, the combined sewer and stormwater runoff overwhelm the New York City sewer system, flushing into the river and out to sea. Just as predictably, the summer's prevailing winds will push this pollution onto our beaches.

All the threats and fines in the world will not help them clean up their act. But federal money will.

Local municipalities should consider using new high tech incinerators for disposal of medical waste. As a New York State assemblyman, I authored legislation that is now being implemented by Governor Cuomo, for the safe disposal of medical waste. It also requires a regional approach to such disposal.

More costly alternatives, involving shipping of such waste long distances, only encourages illegal dumping. Just as we must be cracking down polluters who are dumping syringes in sewers, we also have to make proper disposal as convenient and affordable as we can.

I have outlined in my written testimony that I have submitted to you specific pieces of legislature that are now being considered by Congress that we support, so I'll spare you that litany.

You should know that we recognize that we have a responsibility to address this problem. Let me talk to you about a couple of things we are doing in Suffolk to try to address our pollution problems.

Suffolk County is about to embark on what I believe is the largest and most ambitious groundwater protection program of its kind in the country, where we're earmarking over $570 million of our sales tax revenues towards ground water protection. We're going to be acquiring important water shed areas, but we're also going to be providing local dollars to upgrade our sewage treatment plants.

We're also going to be providing $100 million to our towns to help them cap enclosure their landfills. We're indeed putting our money where our mouths are.

In part, that's due to the fact that the federal government is not assisting localities like they used to. Over the last 8 years, the federal government has been withdrawing from the anti pollution business and I think it's time for a new commitment on the part of the federal government to protect our liquid assets, all of our liquid assets.

If it does reflect that commitment, I'm confident that our liquid assets will once again sparkle like they did prior to the Summer of 1988.

Thank you very much for this opportunity to speak to you this morning.

[The statement of Patrick Halpin can be found at the end of the hearing.]

Mr. STUDDS. Thank you very much.

Mr. Thomas Gulotta, the Nassau County Executive.

Mr. Gullota.

STATEMENT OF THOMAS S. GULOTTA, COUNTY EXECUTIVE, NASSAU COUNTY, NY

Mr. GULOTTA. Thank you very much.

Mr. Chairman and members of the Committee, first let me thank you for the opportunity to appear before the House Subcommittee. I appear before you today certainly as the Nassau County Executive to lend official support to your efforts, but also as a resident who was born and raised in Nassau County. I have had the opportunity to enjoy the rich heritage of our precious ocean beaches. I want to make certain that our children and our future generations have the same opportunity to share in that rich heritage.

Here in Nassau County, our many miles of ocean beaches, as well as our famous waterfront restaurants and related maritime industries, represent not only a great natural heritage, but a major part of our local economy.

During the summer of 1988, the enjoyment of these beaches and the well being of the entire maritime industry was jeopardized by pollution. In view of the sever economic and environmental impact for this summer's events, all levels of government must work together to address the problem.

Nassau County, through our Department of Health, currently issues bathing beach permits for 83 beaches, which includes 37 beaches along 22 miles of ocean beachfront. In order to monitor water quality at these beaches, as well as to determine the general health of the marine ecosystem, the Department conducts a surveillance program which includes routine sampling and testing of 75 shore line and 130 offshore locations. Although this program

continues to indicate very good to excellent bacteriological water quality at most bathing beaches, the primary problem for 1988 was the highly publicized floating waste debris.

Since 1986, the Health Department has been regulating the disposal of potentially infectious wastes by any facility which generates greater than 220 pounds per month under Article XI of the Nassau County Public Health Ordinance.

Eighty-five percent of the infectious waste generated in Nassau County is controlled by these regulations. This ordinance will be modified in the near future to control all generators of infectious waste with no minimum weight requirement. This revision will be consistent with the recent change in the New York State environmental conservation rules regarding transportation and disposal in which the previous 220 pound limit was eliminated. It should be noted that infectious waste represents only 25 percent of the 114,400 pounds of medical waste produced each day in Nassau County.

Although a county program for controlling infectious wastes is in place, coastal pollution knows no boundaries. Washup of medical debris on Nassau County beaches was first experienced as long ago as 1976. During this summer however, these sporadic debris washups increased rapidly in volume and frequency and caused five episodes of temporary closures of ocean and sound beaches. Among the medical debris was a large number of small diameter syringes which are extensively used by diabetics and drug addicts.

I took the opportunity to bring down with me today some of the medical debris that has been washed up on the south shore beaches of Nassau County. You will see that it includes syringes, as well as other floatables. This particular syringe which was picked up on one of our south shore beaches, was picked up by a young boy as recently as a few days ago on August 28 while he was enjoying the beach front.

Much of this material appears to be coming from outside our county. Here in Nassau, we have maintained an ambitious program of protection for our natural resources. All sewage is treated to high standards, and the county is taking steps to eliminate sludge disposal at sea. Storm water and sanitary sewage is separated.

In addition, I have asked our Commission of Police, Samuel Rawsy, to have a special task force to determine the source of the medical waste which has been washing up on our beaches, and to also ascertain that the medical disposal of waste in Nassau County is being handled in a proper fashion. That task force has now been in operation for some 6 weeks and we hope to have a report from it in the near future.

Clearly, the problem is not indigenous to Nassau County. This is an issue that has affected the entire eastern seaboard.

I have relatives in Harwich Port, Cape Cod, and I know from talking to them earlier this summer they're concerned with regard to the medical waste that they were experiencing in the Cape Cod area.

Just as the problem does not recognize geographic boundaries, so too the solution must cross state boundaries. A federal solution.

In that regard, I've contacted our federal representatives, many of whom are here today and who have been extremely cooperative and helpful in seeking such a solution. I thank this committee on behalf of our residents for its efforts.

In order to resolve the dilemma of coastal pollution and the fouling of our beaches, effective measures must be taken. The issue of medical waste disposal, not only infectious waste, must be addressed by uniform legislation. Bills have been proposed at both the federal and state levels which will provide for the development of storage regulations and a tracking system from the point of origin to the point of disposal. Nassau County strongly supports passage of this legislation.

Other solutions regarding medical wastes must be proposed. Environmentally safe regional incinerators which will provide for the proper and economic disposal of all medical waste should be developed. In other cases, the continued use of on site incineration with state of the art technology will reduce the amount of wastes moving on our public highways.

The summer of 1988 must not be repeated. It is only by the combined efforts of federal, state and local agencies that we can provide for the continued enjoyment of our precious natural resources, by us and by our future generations. I pledge the support of Nassau County's resources to this effort and I thank you for the opportunity to be heard.

Mr. STUDDS. Thank you, Mr. Gullota. Had I known you had relatives in Cape Cod, you would have been first.

First, a housekeeping announcement—because of the pressure of time and our desire and intention to have an opportunity to question each panel and each member at a time, we are not going to break for lunch. We're going to continue and we will trade off, Mr. Downey and I, on the chair, for the information of members. Somewhere mysteriously behind us there are box lunches and we may come and go quickly as we choose.

For the information of everybody else fortunate not to be members, I'm told that the concession downstairs is open.

It may not be fair to you, Mr. Muszynski, but obviously you seem to be in the minority of one here with respect to the proper role at this point of the federal government.

Mr. Halpin I think it was—it's your testimony where you say you're happy to be appearing in the same panel as EPA because his agency needs our help. As you probably know, his agency won't accept our help. We have a problem. They've asked each year for the last 8 years for less help, which has been very awkward in our efforts to give them help.

I say in fairness to Mr. Muszynski, you're not at Washington policy making level, and maybe you think it's fair, maybe it's not, for some questions like that.

The conclusion of EPA is essentially that what needs to be done is being done, and your deputy director for solid waste testified earlier this month in Washington before another house committee and I quote—"'EPA's ongoing educational and technical assistance efforts should be sufficient to resolve these issues".

That's not particularly reassuring to me and I gather to anyone on the panel. Let me give a background note that in 1978, the EPA

first began to study the question of whether to include infectious waste as you probably know in the hazardous waste category.

I'm reading now from the federal register of June of this year—"significant comments were received on that proposal. Based from these comments, infectious waste was not identified or listed as a hazardous waste when the regulations were made final on May 19, 1980." We're now speaking 8 years ago.

Instead, the agency initiated several activities to collect information and assess the problems posed by infectious waste management and disposal. That was June 1980.

Eight years later we are told that the EPA has just last week come up with a medical waste task force which is going to do 8 things—define, define, assess, evaluate, assess, assess and analyze.

Where have we been in the last 8 years? Is that a fair question for you?

Mr. MUSZYNSKI. Let me preface my remarks by saying that Lee Thomas has indicated his support for the proposed legislation providing for the regional tracking system for this region with the 2 states, plus Connecticut. So we have supported it.

With respect to back in history, when we proposed the inclusion of medical infectious waste under the hazardous waste regulations the majority, including the states, did not support that inclusion at that time, feeling that the imposition of the inclusion of the infectious wastes into the hazardous waste definition would further polarize the ability to get rid of those wastes, and they felt at that point in time that the wastes were being handled adequately.

Since that time, we have done certain things, including the development of manuals of practices, looking at the methodology to dispose of such wastes. Looking at incinerator capabilities that are out there to handle the waste, so in that sense, we haven't been doing nothing.

It's been polarized by the last 2 year events, especially last year here.

Mr. STUDDS. If we haven't been doing nothing, why do we need as of this month to begin from the beginning—to define medical waste, to define the problem, to assess state programs, to evaluate management authority, to assess the need for tracking and reporting—this is step one. Are we reinventing the wheel?

Mr. MUSZYNSKI. I don't believe that we're reinventing the wheel. I think what has happened is if you look around, New York has a definition of infectious waste. Commissioner Sexton has also told you the difference between their definition, the CDC has a definition of medical waste. Most of our states have definitions of infectious or medical waste, none of which match. We ourselves have proposed in our manual of practice, a definition of that waste.

We're saying that it's time to look at all of those.

Mr. STUDDS. Isn't that a prima-facie case for uniform national standards?

Mr. MUSZYNSKI. We have a uniform national definition and local entities which used to change.

Mr. STUDDS. Is that not in and of itself compelling evidence for the need of national statutes and national standards that are enforceable and uniform throughout the country?

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Mr. MUSZYNSKI. Like we're saying, we're supportive of the legislation that would put the regional system into place so that we can make judgments along those lines.

Mr. STUDDS. How many more 8 years do you think it will take for us to make a judgment?

Mr. MUSZYNSKI. I don't think we're looking at a period of 8 years. I think we're looking at a period of 9 months.

Mr. STUDDS. I don't want to inject—there's enough strong feelings of what we have or have not done in the last 8 years, but we're lucky your agency is still there given the budget requests of the early 80s.

You referred in your testimony to combined sewer outflows and the contribution they make to the problem generally of coastal pollution and to a certain extent of what we're talking about today.

We have thousands of them around the country. They are point sources, are they not?

Mr. MUSZYNSKI. They are. Combined sewers are provided for——

Mr. STUDDS. Are they permitted under the NPDES system?

Mr. MUSZYNSKI. Yes. They're included.

Mr. STUDDS. Have you issued point source permits for all of them?

Mr. MUSZYNSKI. Permits—in my recollection, point sources were included as part of the New York City permits. Generally what you would do is include them as part of the treatment plant permit, as opposed to a separate and distinct permit.

Mr. STUDDS. It is not an unrelated area?

Mr. MUSZYNSKI. Not unrelated at all.

Mr. STUDDS. The problem is substantially larger than we're addressing here.

Is there anyone on the panel who would like to respond to the position of the EPA, that what we ought to do at this point is to stop or to contend ourselves with a regional experiment involving the 3 states, so as to further assess and define the problem?

[Pause.]

Mr. HALPIN. Let me make this one observation. I think that the EPA has to be acting more as an initiator, somebody who's going to insure that we have uniform standards throughout the country. But unfortunately, what we've seen is that they've been more than content to act in a very passive advisory role.

Frankly, it's a little bit discouraging. As you heard from the 2 county executives of Long Island, we represent close to 2.8 million people. As a whole, our region is doing a pretty good job in managing our problems, but the size of this problem is so enormous that it's far beyond our ability to manage on a regional level.

As an assemblyman, when I was in the process of drafting legislation that significantly tightened New York's laws when it came to the handling and safe disposal of medical waste, we found that there was a whole range of practices throughout the country and frankly, uniformity was non existent.

The only place we're going to get that type of uniformity is with the Environmental Protection Agency, taking an active and aggressive role to insure that it happens. Otherwise it just ain't going to happen.

Mr. MARSH. I would venture to say that with any manifest system, such as we're embarking upon in New York and New Jersey, it will inevitably be much more useful and much more productive in terms of enforcement if it is done on at least a very large regional basis, if not a national basis.

We know that the commerce in medical waste from the New York metropolitan area extends at least as far as South Carolina and perhaps out west as well.

I think the national manifest system does make a good deal of sense.

One other area in which we've been pressing EPA for some national uniform minimum standards is in the incineration of solid waste, of which medical waste is an important subset and while we in New York have just adopted very stringent standards for both ordinary garbage incineration and medical waste incineration at both hospitals and regional incinerators, obviously it will help in the long run if those minimum standards are made uniform.

Mr. GULOTTA. There's no question in my mind that we need uniform standards and rules and regulations. Whether they flow from the legislative branch of the government or whether they flow from the administrative bodies.

We cannot have a repeat of what we saw in this state with regard to solid waste disposal. What occurred was a deadline was established by the state legislature, whereby all the municipalities had to close their landfills, and I believe everyone agreed that that was a good, and proper objective.

Unfortunately, for many years prior to the time, there really had been no effort by any higher level of government to establish uniform standards for solid waste disposal, to establish standards for emissions from incinerators, and consequently, the local municipalities were left to their own devise in order to struggle to meet a deadline and to try and find some means for solid waste disposal.

Some move to incineration, some move to carting off island, others found other alternatives. All incredibly costly. We're talking about millions upon millions of dollars to build such plants.

In the town of Hempstead alone, the solid waste disposal program which is only ½ the town of Hempstead and ½ the county of Nassau, is costing the town of Hempstead $500 million, half a billion dollars. Thankfully, the town of Hempstead has a large municipality, but you can see the enormity and the size and the cost of resolving that problem for other municipalities which may not have the resources anywhere near that particular township had.

Unfortunately, we came to the table in my opinion a little bit late. I think all of us can share some of that responsibility—administratively, legislatively, executively—to understand that we needed a prototype and we need the dollars to lend support so that local municipalities have objective to strive for.

I am equally concerned that while we all agree that medical waste and medical disposal of waste is a good objective, just as we all agree that solid waste disposal was a good objective, that local municipalities are going to be left to their own demise, that there are not going to be uniform standards and that indeed the local dollars or the dollars will not be flowing to local municipalities in order to achieve that objective.

I hope that we can at least learn our lesson, all of us, from the problem that we face with the landfills and solid waste disposal and to establish those standards, uniform regulations, uniform penalties and that we do what we can to bring those dollars down locally so that local municipalities can do what's necessary in order to achieve that objective.

Mr. STUDDS. Mr. Lent?

Mr. LENT. Thank you. First of all, I want to thank all of the people who are here on the panel. It's a very good panel and I think we've all learned something this morning.

Mr. Chairman, I'd like to ask you now to put in the record a statement by our colleague, Bob Davis of Michigan, who is the ranking minority member of this committee.

Mr. STUDDS. Without objection.

[The statement of Robert Davis follows:]

STATEMENT BY HON. ROBERT W. DAVIS, A U.S. REPRESENTATIVE FROM MICHIGAN

Simply put, I am in strong support of the "Medical Waste Sanctions Act of 1988". The bill derives many of its provisions from the natural resource damage claims section of H.R. 4208, reauthorizing the National Marine Sanctuaries Program. The National Oceanic and Atmospheric Administration has been assessing damages to natural resources under implied authority under that law, and has been successful in prosecuting those who have damaged our marine ecosystem.

However, the bill does have a single flaw: it neglects the Great Lakes.

Although the media stories have focused on the crisis along the shores of the mid-Atlantic coast, medical waste is a national problem. Medical refuse, some contaminated with the deadly AIDS virus and hepatitis B, has littered our beaches in Connecticut, Florida, Maryland, Massachusetts, North Carolina, and Rhode Island, as well as New York and New Jersey.

The Great Lakes are not immune from medical flotsam, just like many other marine pollution problems. On August 10, on a private beach near Cleveland, approximately 200 syringes and other medical debris washed ashore from Lake Erie, a body of water which was pronounced dead just twelve years ago and is now making a strong comeback.

Coupled with the very real risk of disease or injury, medical waste has affected local economies, causing a severe drop off in tourism, fishing, and other recreational uses. Like the citizens of our sister states along the oceans, many residents of Great Lakes states depend on the water for their livelihood. We have begun a profitable limited commercial fishery, and recreational uses of the water have added millions of dollars to our economy.

Tomorrow, I will be introducing a bill to control medical waste disposal in the Great Lakes. This bill, along with that of Mr. Studds', and H.R. 3478, introduced by Congressman Jim Saxton of New Jersey, will create a truly national program to protect our health, our economy, and our beaches from the harm posed by syringes, blood vials, needles, dirtied bandages, and other types of potentially deleterious medical waste. A strong national program to regulate and ban water disposal of medical waste is one important step in cleaning up our oceans and Great Lakes.

Mr. LENT. I'd like to ask one question of the panel. There are a number of people here who have a health background. Given these washups, do we have a serious health problem on our hands with this medical waste washups? Yes or no?

Mr. SEXTON. I'm not a health professional, but I consulted the Health Commissioner and the answer is interesting. He said on the one hand the chances of actually contracting AIDS or even hepatitis which is much more contagious than AIDS is really very small in most of these instances, but on the other hand no one can tell you it's zero.

I think in the case of hepatitis in particular, material is something like a vial filled with blood as opposed to a syringe which

may or may not one day have had blood in it and who knows where it was. The idea of stepping on it and perhaps getting a cut contaminated with blood that later itself turns out to be contaminated—your physician would be very worried about that and would be testing you very frequently until they determined that you had or hadn't gotten hepatitis from the incident.

We certainly have a safety issue without question because you could get cut or stuck. We have an issue of comfort level because——

Mr. LENT. I'm not talking about comfort level. I'm talking about do we have a serious health problem.

Mr. SEXTON. What the physician said to us was that it couldn't be considered a major problem in the sense in the bacteria might be related to hepatitis contamination or something like that, but that no one could reassure you that the risk was zero.

Mr. LENT. Maybe you can straighten me out and a lot of my constituents who use these beaches, including Jones Beach, Point Lookout, Lido Beach and this whole beachfront area that we have here on the south shore of Long Island.

Most of us feel that this stuff, the garbage and now the medical waste comingled with it, emanates basically from the New York City area.

You're the Commission of Sanitation in New York City. Do you agree with that?

Mr. SEXTON. No, I don't.

Mr. LENT. Where do you think it comes from?

Mr. SEXTON. I think the places we've discussed in testimony so far are the commonest sources. It depends a little bit on which trash you're talking about. I think that people have said and we've agreed that some litter escapes us as to New York. I think people have said and we generally agree that the syringes for instance are probably most likely—come out of the sewer overflow problem——

Mr. LENT. That's New York City, isn't it? We don't have that here in Nassau County.

Mr. SEXTON. Some of the CSO's are in New York. Some are in New Jersey. Some are up and down the region. I don't think it's exclusively New york City. I think that some of the waste that's most disturbing people, for instance the blood vials, is pretty hard to get to the water except by depositing a conscious act. That is none of the sources that we have tracked for the various kinds of wastes. Different kinds of wastes might have gotten there by various means. None of those means make much sense to us as a way to get something like blood vials in the water, except that someone threw it, if not in the water, then in a sewer and heavy rain got to the water, or through——

Mr. LENT. My time is limited and the Chairman is going to rule my time out. In New York City, this problem of combined storm water sewer overflow—when it rains in New York City, all the stuff that's on the street flushes into the sewer system into the river, and then depending on the way the tides are going and which way the wind is blowing, winds up either on the shores of New Jersey or the shores of Long Island.

Mr. SEXTON. Or New York City itself, sure.

Mr. LENT. How many gallons of raw sewage presently are discharged into New York Harbor from New York City? I know you've been working to build sewage treatment facilities. Not too long ago, I know if you flushed a toilet in the World Trade Center, it went raw out to the Harbor. Is that still the case?

Mr. SEXTON. No.

Mr. LENT. How many gallons a day—it was once 500,000 gallons a day I believe of raw untreated sewage.

Mr. SEXTON. I think it once was. I'll answer to the best I can. Except for storm conditions, there is not discharge of the raw sewage any more.

I think that storm water overflow occurs throughout the region, including by way of Long Island. I think combined sewer overflow occurs throughout the region, including New York City. I don't think that there is daily untreated sewage any more. Any time a treatment plant breaks down, yes.

Mr. LENT. I'd like to ask Assistant Commissioner Marsh who mentioned boat discharges, beachgoers' litter, private use of needles, street litter, animal excretion, and you also mentioned this problem of combined storm sewer overflow.

Can you quantify those? How much of this stuff washes up on the beach every day—not just medical waste. We've had garbage washing up on our beaches. Every morning these beaches are raked. What's different this year is that we have the medical waste included in. The garbage has been a long term problem going back to before 1978 when we had a bad summer and up until now.

Can you quantify for us how much of this is thrown out of boats, how much of it is beachgoers' litter, as compared to what's coming out of New York City in the form of this overflow from the combined sewer pipelines?

Mr. MARSH. No, I can't. What we have collected this summer from the beaches of Long Island that could arguably be considered medical waste as opposed to ordinary trash turned out to be a rather small amount. A good deal of what was initially thought to be medical waste consisted of popsicle containers and that kind of thing that looked like some kind of plastic medical waste but turned out not to be.

The amount of actual medical waste could fit into a small room—that's where we have it. In our Stony Brook office.

We're not talking about large quantities, and therefore trying to apportion that relatively small total quantity among the various sources that I mentioned is something that's beyond our capability right now.

We are looking at study designs and so on to see if there could be some way of tracking that down, but when you consider all of those sources and the multiple combined sewer overflow points in New York City which exceed 500, to try to find what comes out of each one of those would be an enormous task.

Mr. LENT. Over 500 of these points in New York City alone, and when it rains, can you describe that process?

Mr. SEXTON. What has been collected in the storm sewers or on the streets and is washed into the storm sewers by the rain fall, when it reaches a certain point will overflow the combined sani-

tary and stormwater system and go out into the waters of New York City.

Mr. LENT. When this happens, has anyone ever tried to quantify how many hundreds of thousands of gallons of this overflow is involved?

Mr. SEXTON. We can quantify the gallonage of the overflow because we know what the capacity of the sewage treatment plants is, and we can calculate the amount of the storm event, so we know that the excess is going to go out into the waters of New York City and the Harbor.

Mr. LENT. Anything that's laying in the gutter in New York City or on the sidewalks that's to be swept down into the drain—does that go out into the river?

Mr. SEXTON. Much of it does. That which does not reach the sewage treatment plant but is overflowed before that point will go out into the waters.

Mr. LENT. In recent weeks there have been a number of bills introduced in Congress dealing with the problems associated particularly with the disposal of medical waste. Has the EPA looked at any of those bills?

Mr. MUSZYNSKI. The Agency does support the Lautenberg proposal, which is the regional system.

Mr. LENT. The Lautenberg bill pertains to New York and New Jersey only?

Mr. MUSZYNSKI. Connecticut also.

Mr. LENT. There are other bills that would cover the whole country—I happen to be on both the Lautenberg/Florio bill for New York, New Jersey, and Connecticut and the other one as well, but it was our impression that we had a better chance of getting the regional bill through because there's really a good head of steam for this kind of legislation generated by the summer's activities in this part of the country.

Whereas, it's a little harder concept to sell in other parts of the country that haven't been visited by large amounts of medical waste and they're concerned about the paperwork and pushing up the high cost of medicare and medicaid and other hospital insurance costs.

Mr. MUSZYNSKI. I personally don't believe that the cost of the tracking system is going to be that great for the people who have to do it. The reason we supported it is that for 2 states here we feel are hardest hit. We would like to have the ability to overlay a system on theirs. We have cooperated with them, trying to get them to have a uniform definition and those states have done that.

Mr. LENT. We have one environmentalist who I've spoken to, who seems to be a very knowledgeable young man. I won't give his name, but he said that in New York—you recently passed some rules or regulations where you make it more difficult for disposal—you closed down a number of hospital incinerators in New York City?

Mr. SEXTON. There is coming more stringent requirements for the incineration of any solid waste in the next couple of years, including hospital waste. What we're proposing locally is that if we can get hospital incinerators either qualified for or exempt from some of those, it would help prevent any closedowns.

Mr. LENT. But you were indicating earlier that you have a relatively new rule, so that everywhere else in the country, a certain type of medical waste goes into a landfill, but not in New York City.

Mr. SEXTON. In New York City, local law 57 which captures the definition of controlled waste, potentially infectious waste.

Mr. LENT. That can no longer go in a landfill in New York City?

Mr. SEXTON. Right.

Mr. LENT. When did that go into effect?

Mr. SEXTON. It's now about to be used.

Mr. LENT. The theory was that people who run clinical laboratories, hospitals, doctor offices, were as he put it—they're using a glad bag instead of a red bag to dispose of this waste.

Mr. SEXTON. That was one of our issues.

Mr. LENT. If they put it in a red bag, it would be easily spotted and it wouldn't go into the landfill. It would also cost $1000 a ton to dispose of it. So they put it in a glad bag instead of a red bag and throw it in the garbage like anything else that comes out of the household or the factory and that's the way they get rid of it.

Since so much of your garbage winds up in the harbor and washing out, this new rule may very well be the reason we're getting so much of the medical waste.

I don't think we found a single medical redbag—we don't have guys with red bags holding them there.

Mr. SEXTON. We did not find any red bags.

Mr. LENT. What do you think of his theory—putting it in a glad bag instead of a red bag?

Mr. SEXTON. You should know the system is much more elaborate than you just described. It includes visual and manual inspection of the waste we pick up. The waste we pick up from medical facilities which they claim is the legal and bag waste is dumped on the floor of the municipal incinerators and raked by trained officers whose job it is to catch them in violations.

You should also know, to be fair to the medical institutions involved, that when we catch them on initial violations, it's usually of a character like several bags of waste and in those we find a dozen needles or something like that.

In fairness to the hospitals and the large institutions, the truth is we don't really find the violations of the kind of gross character that you might imagine. Like a bag full of needles and blood vials.

What we have found is where we've made some arrests and so on, we've found smaller laboratories, doctor offices, etc. who have no legal disposal whatsoever and are trying to get rid of the stuff anyway they can, and we have testimony where informants have told us they've been among the people who were told—one woman was paid to throw stuff in the water.

We had an informant on another case which we made an arrest last week on of dumping in a sewer. We have people who are actually actively throwing stuff out where it doesn't belong.

The act you describe of some red bag material getting into black bag material is almost pathetically easy to catch compared to the other stuff. We find some violations and we do issue violations for that act.

The New York City landfill workers are the reason the local law was passed. It becomes the sharpest eye detectives on these cases of anybody. They won't touch the stuff or anything that looks like it. We have trouble getting them to handle material that comes from nursing homes, that includes the blue diapers for adults that you see in nursing homes, even if there's nothing else in there, because it's just associated with anything that has a medical association.

Mr. LENT. I'm told my time is up by the Chairman. Thank you.

Mr. Downey?

Mr. DOWNEY. I will resist the temptation to do some EPA bashing as well, but I'll get back to some of the questions that I have about enforcement in a second.

Later today, we're going to hear from the national resources defense council, but I wanted to read some of the statistics from their testimony because I find them illuminating and possibly helpful to try and determine what might be a settled view of what this problem is and maybe we can try to figure out some subtle views of what we would like to do.

62.8 billion gallons of raw sewage pours untreated into the waters surrounding New York City each year. Another 47 billion gallons of untreated sewage flow from New Jersey. Thus spoke the New York Times on July 25.

4000 pounds of toxic metals pass through New York City's 14 sewage treatment plants and into surrounding waters each day. 8 million tons of sewage sludge containing more than 500 tons of metals are dumped 106 miles off the coast every year. That's the point that Mr. Halpin was making.

Untold millions of gallons of stormwater runoff contaminated with organic, unorganic pollutants, waste, crank case oil, dog dumpings, on and on.

The point that Mr. Marsh made and Mr. Sexton has admitted to—the fact that in the transporting of some of the garbage, it inevitably blows off the barges into the water, which accounts for several tons or the dozens of tons each year or more or less.

The list is painful, it goes on and on. I will spare us this point, but it's obvious that we continue to abuse the oceans, we continue to have problems in terms of stormwater runoff in our own county and CSOs, combined sewage outflows which continue to exist throughout the metropolitan region.

I wanted to ask you first whether or not New York City has a plan to do anything about it. Are you aware of any plans to reduce the amount of CSO material?

Mr. SEXTON. We do agree and we spent a couple dozen million dollars in the last year trying to reduce the likelihood that litter can leave a New York City facility and wind up in the water. Litter is one thing and medical waste in most circumstances is something different.

We did this year control the waterway running to our facility—and they never found a piece of medical waste. We do lose some litter—usually scraps of plastic bags. Only that. Although we certainly cannot claim that our system has never dropped any of that in the water, we think we've done a great job. Personally I think we could do more.

We've been under intense scrutiny by everybody.

The CSO problem is of real concern to all of us. And there's a stormwater runoff problem in addition to that. That's of concern to everybody.

New York City has committed—it's actually closer to $1½ million over the next 10 years for the first stage to address the largest and the most obvious of the overflow points where drywells and catch basins and so on will be set up to catch it.

It is not in my department, but it's something I'm working closely with. I'm obviously very concerned with any of it that winds up as flow that goes in the water that ends up on the beaches and so on.

Something that we haven't mentioned here which we are additionally committed to as a city, which we originally got from our regional director in the EPA and now New Jersey's commission of environmental protection, Mr. Daggot who put his finger on the refloatable problem which we shouldn't ignore.

Even if we stopped polluting today, there is such an enormous amount of durable trash out there in the water and on the harbor's edge, that we'd probably have refloating litter for some years to come, and we are committed to a joint program with him in the state of New Jersey of trying to get out there and clean the shorelines.

Mr. DOWNEY. I think Mr. Lent put his finger on it. The tendency is here to when we're asked that a hot summer day for answers, to try and point fingers at people which almost inevitably is wrong because it further misleads people—I want to quantify if I can in terms of the combined sewer outflows—are we going to be looking at dealing with 5 percent of the problem? 10, 15? The next few years.

Mr. SEXTON. It's honestly not fair to try to answer this, because it's not my department.

Mr. DOWNEY. Mr. Marsh, can you?

Mr. MARSH. I don't know the precise percentage, but there are presently several projects in active implementation in Jamaica and Flushing. The entire city is divided up into 4 zones and both the combined sewer overflow and the runoff problem are being defined and addressed in those zones.

It's anticipated that within the 10 years, all of the presently proposed projects will be completed, but in the process of doing those area studies, there may be additional measures that will be required to prevent the entire problem.

Mr. DOWNEY. Is New York City contemplating doing anything like we've done in Suffolk County, mandatory recycling, certain types of paper and cans and whether or not possibly to ban plastic and non recyclables?

Mr. SEXTON. Yes. It's due to appear in the next couple of weeks, asking for a bill of mandatory recycling. I agree with you and County Executive Halpin that this—although it may seem a stretch of people's imagination because they can't imagine recycling syringes, in fact what we're trying to effect here is a social ethic as to what to do with waste and whether or not we can stop imagining that we can do anything with it and develop a sense of responsibility about it and remind people that it's there to be han-

dled. We have to start teaching people to handle waste responsibility.

Mr. DOWNEY. How many investigators inspectors do we have in your region for instance to deal with the problem of trying to figure out who might be doing the dumping of medical waste? I was here the beginning of the summer and I was with 2 fellows from the EPA, one a helicopter pilot and one who seemed to be an inspector. He said there were 2 or 3 for the entire coastline.

Mr. MUSZYNSKI. I think what he was referring to is we have people who work on the helicopter to do this survey. It's not just surveillance, but they also do monitoring.

The Peter Anderson, which is our ocean survey vessel, our national vessel, which has been out in the coastline today and has been out there for about a week doing additional work. We have quite a few inspectors that we will either shift from one program to another——

Mr. DOWNEY. How many is quite a few?

Mr. MUSZYNSKI. We have 4 criminal investigators.

Mr. DOWNEY. How many does the DEC—how many people do we have?

Mr. MARSH. We've assigned 8 people to the overall investigation.

Mr. DOWNEY. What about the garbage?

Mr. SEXTON. We have 13 investigators and district attorneys now assigned and we expect to increase that by half or better the next couple of months.

Mr. DOWNEY. How many in Suffolk and Nassau?

Mr. HALPIN. At any given time, our marine bureau has about 14 people given shift. That's to cover the North Shore and South Shore. We're stretched very thin. Frankly, this is not a priority.

Mr. DOWNEY. Do they coordinate with the EPA and the City of New York? It seems to me if some junkie is disposing of his syringe down a sewer in New York, you're not going to find that person and then it rains the next day. That may wind up out here.

What I'm concerned about and what you seem to be alluding to is that the idea that somebody is consciously dumping this stuff in the water. There's a lot of coastline, it might be difficult to do.

Mr. HALPIN. The reality is we don't have enough cops or government employees from the federal to local level to be able to patrol every manhole cover.

Mr. DOWNEY. Nor would you want to.

Mr. HALPIN. The problem we have when it comes to medical waste is that while we're toughening the regulations and making them more stringent, there is really very few places to dispose of it.

The only private incinerator in the metropolitan area that handles Nassau and Suffolk, hospital waste and New York City Hospital waste is located in your district, in West Babylon. And they're operating on the basis of 1968 anti pollution laws. Minimal standards. That's why we had to toughen the state standards.

What we have to do is develop a system whereby regionally it's convenient and relatively affordable for the disposal of waste.

Brendon Sexton hit it on the head before—the proper disposal of red bag waste costs anywhere between $400 to $700 a ton. You've got to give these entrepreneurs an opportunity to dispose of it and

they'll take care of it properly. There's plenty of money to be made.

The state of the art garbage incinerator operates between maybe $100 and $150 a ton tops. They can handle that wastes very easily, but we have to address some of the political concerns that people in the community might have, having that waste go through their incinerator, and also landfill workers or in this case incinerator workers—making sure they're properly trained and educated

Mr. DOWNEY. You mentioned hospital incineration and the DEC testimony—they say the hospital incineration is of concern for some reasons. First hospital incinerator admissions are both dox (ph) and inferons (ph), two known carcinogens. And they further point out that the incinerators do not comply or are operating under old pollution control standards.

Mr. HALPIN. The reason for that is that most of the waste is plastic. These are small incinerators. It's difficult for them to control the burn, so as a result they have flare ups and emission problems and other things that result in those kinds of outcomes.

Mr. MARSH. The solution is good incinerators. I don't think anybody wants to push a whole lot more waste through outdated, polluted incinerators just because they happen to be located at hospitals.

Mr. DOWNEY. The testimony says here further that the practice of pouring blood, blood products, ground up body parts and other liquid infectious waste down sewer drains remains one of the recommended methods of disposal.

Is that true? And they say further in theory the facilities discharge their waste in expectation that it will be dealt with at municipal and county sewage treatment plants.

Mr. MARSH. I think this has been a common practice and an accepted practice in the hospital industry. As Commission Sexton mentioned earlier, I think with the pressure to expand definitions of what can and cannot be done with various items, that may change.

Our Commissioner of Health has strongly backed as a preferred solution to the disposal of infectious waste and indeed most medical waste regional incineration, including municipal waste energy plants, which provide an ideal environment for total destruction of these kinds of waste.

Mr. DOWNEY. Thank you, Mr. Chairman.

Mr. STUDDS. Mr. McGrath?

Mr. MCGRATH. Thank you, Mr. Chairman.

Some years back I was involved in the disposition of toxic material in trucks, and not to defend anybody's number of inspectors or whatever that might be available, there were 155 inspectors of toxic waste for trucking throughout the entire country. We have a long way to go on that particular situation.

It seems that the public is way ahead of the curve. Just this past weekend in my district in the city of Long Beach and contiguous beach areas, in the most rotten weather you could ever find, there were thousands of people demonstrating in the rain regarding the condition of our shoreline.

I just encouraged those people to continue their effort here because without the input of the general public into this kind of a

serious problem, all too rough in our interests are so diversified and varied, that perhaps we wouldn't be focusing on it to the extent that we need to. And I would encourage the people who have demonstrated their concern over our shorelines over the past number of months to continue to do that.

The need for federal standard regulations—I worry a little bit about having those kinds of regulations where local governments, where their needs require more stringent regulations, are not allowed to do that. I recognize that most of these are minimum from the federal government, but liability in courts and a lot of other things determine that the minimum becomes the norm, and if New York City wanted to encourage as they have in some cases more stringent regulations and the state now with theirs or the county, I wouldn't want a federal regulation to preclude the ability of local jurisdictions to make those kinds of more stringent determinations.

We have 2 bills that we're looking at—one seems to be one that everybody is on board with. Tracking the manifest system for medical waste and I'm on that bill and I applaud it and whether or not it's the federal bill or the regional approach—whatever one can pass I believe is the one that we ought to be looking at this point in time.

I suspect that everybody on the panel is somewhat interested in hearing what the EPA, the local county executives and Mr. Sexton has to say about something they'd be interested in. We're talking here about another bill of equal importance, and I think we're probably going to have a diverse opinion on this one. I know New York City is opposed to it.

That's the dumping of sludge that figures to a few years ago was out to the 12 mile limit. Now it's 106 miles and there's a bill presently in front of your committee, Mr. Chairman, to eliminate that by the year 1991 I think.

Mr. STUDDS. It's already been reported by the Committee.

Mr. MCGRATH. The Senate I understand has passed that bill 97 to nothing, and one of the impediments to passing the bill in the House I suspect is the objection of some local governments to continue to dump their treated sewage in the ocean.

I suspect that the time has come to give ample opportunity for those municipalities who continue to dump their sludge in the ocean to find another way of doing it. In 1976 I believe, there were 27 or so jurisdictions doing it. Now there are 9 about 11 or 12 years later, and this bill provides another 5 years.

I would suggest that the 97 to nothing score in the Senate would probably be the same kind of an outcome in the House and I would suggest that those who are continuing to dump their sludge might want to find other ways of handling their situation. I'm sure Mr. Sexton has something to say about that.

Mr. STUDDS. The reason the bill was stuck in the Senate for so long is the vote was 95 to 2.

Mr. SEXTON. I don't handle sewage sludge, thank God. I note that the bill passed by the Senate excludes the Freshkill landfill as a potential place to put it. That makes me a conflicted witness on this issue. I know that the mayor and Congress have exchanged quite a lot on this bill. The city will comply with the law I'm sure,

as will Nassau County, Westchester County and the northern New Jersey municipality.

I don't want to say anything about how everybody blames New York City, but it is important to know that only about half that sludge out there is from New York City.

Mr. McGRATH. Mr. Marsh, what would be the State's disposition on this matter?

Mr. MARSH. The state has taken a position that getting sludge out of the ocean makes sense, that sludge is a reclaimable material that ought to be beneficially reused to the extent possible and that we should aim to do that.

We agree with New York City to the extent that we believe that it may be physically, logistically, procedurally impossible to get all of the sludge out of the ocean by the year 1992 and we're working with the committees to see if at least some amendments that would not so harshly penalize the City for not making that date, but which would be consistent with the goal and objective of getting out of the ocean as quickly as possible.

We support the concept of that bill and are continuing to work with the City and Congressional delegation staff.

Mr. McGRATH. The state and the City wouldn't mind if I voted against that amendment.

Mr. Chairman, I think this panel's been terrific. They've given us certainly good information as to the whys and wherefores of the economic impact of our problem that we faced here on Long Island this summer, and I want to thank them.

Mr. STUDDS. Mr. Hochbrueckner?

Mr. HOCHBRUECKNER. Thank you, Mr. Chairman.

The sewage sludge problem may be your problem. As one of the solutions, to dispose of the garbage may include the option of drying your sewage sludge and in fact burning it as part of your process.

I had suggested to Mayor Koch a couple of months ago when he came down to Washington to lobby against the used bill regarding sewage sludge.

Mr. SEXTON. Because of the state limit on the size of each particular plant, you wouldn't want to share the solid waste capacity with sewage sludge, but it still might be my problem because it is politically so difficult to get a site to incinerate anything.

If the city has instead of 6 or 8 or 9 site for solid waste incineration, it now has 12 and that makes each of those battles less likely to be won quickly.

Mr. HOCHBRUECKNER. Obviously we've touched on many subjects here today and much more thought will have to go into in the whole process. I'd like to confine myself to one area—the combined sewage overflow problem.

As Mr. Marsh pointed out in his testimony, this is very similar to testimony that the Bi Partisan Long Island Sound caucus members have heard over the months in the past with regard to this particular problem and I think most people at this point recognize that the problem is that when you combine the normal rain flow, any rainfall in this city that falls at a rate 1/25 of an inch per hour is sufficient to cause an overflow.

Now the problem is there is a 10 year program that will in fact allow for the construction of a variety of holding tanks so that the flow of capacity of sewage water as well as storm runoff can be held in tanks and not go out into the New York byte until the plants can in fact handle the capacity.

It's a program that makes sense. We don't know if at this point it's going to include every particular plant, but obviously as was said in the testimony, there were 540 overflow right now.

My question for Mr. Sexton and Mr. Marsh is is it possible when one recognizes that when you reach capacity and we now have obviously the floatables going over the top and into the Harbor, what can be done on an interim basis to screen out the flow of it. Because obviously those are the most offensive elements and is the reason why Mr. Hughes from New Jersey put in his bill in the first place, to stop the sludge dumping. He put it in because he was reacting to the floatables ending up on New Jersey shores, which are the same kind of floatables that have ended up on our shores that we find so offensive.

The question is—since it's going to be a 10 year program exceeding a billion dollars in costs, what can be done on a more immediate basis to at a minimum, while you're doing this 10 year phased in program with these treatment plants, what can be done to at a minimum screen out the floatables which are the most offensive part of the overflow that's bothering us in the first place?

Mr. MARSH. Let's draw a clear distinction between the sludge, which is screened before it's taken out to the 106 mile site—I don't believe there are any documented floatable problems coming from that source—and the stormwater overflows from which we surmise and know in many instances that floatables do occur.

A well designed combined sewer overflow project will include the skimming off of all floatables. That's one of the major elements of a good project, but until that is done, my understanding is that it's extremely difficult to go to each one of those 540 overflow points and put in some kind of screen or net or whatever that would not result in very rapidly clogging up the system and causing it to back up into places where we don't want sewage combined or otherwise to go.

I think what can be done in an interim basis is not something that I'm aware has been addressed and I'd certainly like to look into it.

Mr. SEXTON. We'll talk to our engineers in the City's Department of Environmental Protection on whether there are at least certain points where floatables might be a particular issue that something can be done now, and I think we'll be looking that over the next several months.

It is not true that all CSOs seem to release floatables, for whatever reason that is. You seem to be able to pinpoint some outfalls as being particular sources of floatables. We have certain locations in the city where the beaches have collected material and other locations where there's been none, so we have ideas where we'd most like to see some kind of measures, and we are talking about that locally.

Mr. HOCHBRUECKNER. My engineering tells me that there are clearly things you can do on an interim basis to remove the floata-

bles in a very quick way while the overall project will play out over the 10 year period.

Mr. MARSH. One thing that we would strongly urge to be done, the reduction of the waste that gets into the sewers by whatever means we can, public education, recycling programs, and just good policing of the streets and so on.

Effects by the residents as well as the City, I think will help. It's a public awareness problem in large part. That would seem to me to have the quickest payoff in terms of results.

Mr. HOCHBRUECKNER. Thank you, Mr. Chairman.

Mr. STUDDS. Thank you, gentlemen. It's been a long time.

We'll go to Panel Two.

[Pause]

I know that many, if not all of you, have put a great deal of time into this. I've read some of the testimony. It's lengthy, it's detailed, it's footnoted. It reflects an enormous amount of thought and effort and we appreciate that and we will digest it.

We make the same request we made somewhat futilely to the preceding panel, to say nothing to the members themselves who are supposed to be guided by the same 5 minute rule. We're all mortal. Do the best you can to confine your oral presentation to 5 minutes. Your statements will appear in the record.

We will go in order in which you appear on the list, if that's all right with you. Beginning with Ms. Lisa Speer, of the Natural Resources Defense Council.

Ms. Speer?

STATEMENT OF LISA SPEER, SENIOR SCIENTIST, NATURAL RESOURCES DEFENSE COUNCIL

Ms. SPEER. Thank you, Mr. Chairman. My name is Lisa Speer. I'm senior scientist with the Natural Resources Defense Council. NRDC is a national environmental organization headquartered here in New York. With me today is Andrew Kass, a researcher who works on waste issues, and Lynn Edgerton, an attorney who handles our work on ocean disposal of sewage sludge.

Rather than reading through my prepared statement, I would like to spend my 5 minutes responding to some of the issues that were raised this morning in response to your questions.

First, I would like to thank this Committee for its outstanding leadership in pursuing innovative solutions to ocean pollution issues. The Committee has taken a leadership role that has really been one of the best in the Congress, and we appreciate that effort.

Mr. STUDDS. If you're going to praise the Committee, you can have as much time as you like.

Ms. SPEER. The first point I wanted to mention was that EPA, in response to one of Mr. Studds' questions, indicated that CSOs are permitted. I would respectfully disagree.

Individual point source CSOs are not in fact permitted in many areas of the country. Indeed EPA recently sent up a draft permitting strategy for issuing NPDES permits for CSOs. They have requested our comments on that strategy by September 12. We will be submitting them.

While CSOs may in fact be included in the sewage treatment plant permits, the individual combined sewer overflows are not in fact permitted as required by the Clean Water Act.

In response to a question about the amount of sewage that is discharged annually, the gentleman from New York City responded that raw sewage discharges were limited to storm overflows.

According to the head of the Interstate Sanitation Commission, Alan Mytelka, that is not in fact the case. At least according to him, 5 percent of New York City's sewage goes untreated during dry weather into surrounding waters in a process known as dry weather overflows.

What happens is the regulators that divert the sewage and storm water into local waters get stuck. There are other problems. The New York City sewage system is in part 300 years old. There's a lot of work that needs to be done.

With respect to CSOs, the abatement program that was mentioned by both the State and the City is certainly a laudable program, but I would note that plans for addressing CSOs have been in the works for the last 20 years.

The only retention basin on that we know of that has been actually constructed is out in Jamaica Bay, and that was built in the 1960s. Unfortunately, these abatement programs when it comes time to spend the money, fall far down on the list of political priorities.

As a result, we've seen a lot of plans and not a lot of action. There has been very little progress on the CSO problem here in New York.

On the question about EPA and others' devotion of manpower to the issue of medical waste, in testimony before a small business subcommittee on August 9, EPA indicated that it has only one person assigned to medical waste full time. The recent announcement of the task force may have changed that, but it is clear that the commitment of resources to medical waste at EPA is less than could be desired.

With respect to blood and blood products, I'm looking here at EPA's "Guide to Infectious Waste Management" issued in 1986. In the chapter on suggested treatment methods for each infectious waste category, I quote—"Blood and blood products may also be discharged directly into the sanitary sewer for treatment in the municipal sewage treatment system provided that secondary treatment is available." The New York statute provides for a similar kind of disposal, only it does not require secondary treatment to be available.

Our concern is that if secondary treatment is required to properly treat infectious blood, blood products and ground up body parts, the fact that New York does not adequately treat its wastes is a very serious concern to us.

Ten percent of the waste goes out untreated. That's going to include some blood products and body parts.

Going to the issue of state regulation that was raised by several people, I think New York is probably one of the better states in terms of regulating medical waste. Particularly the recent regulations that have been proposed by the Governor have really gone a large distance towards helping this problem.

Unfortunately, you have a situation where some states are good, other states aren't so good. The not so good states end up as being dumping grounds perhaps for medical waste, as haulers look for increasingly inexpensive ways of disposing this medical waste. That is one of the chief reasons why we believe that a federal comprehensive program is required to insure the proper tracking, transportation and disposal of medical waste.

I would note that some states regulate transportation, while others regulate treatment and disposal. Eleven states, and the District of Columbia, do not regulate infectious wastes at all.

This kind of patchwork of controls has led to what we have seen this summer, but also other instances of medical waste mismanagement, including the finding of human limbs in landfills in the Midwest, and the washup of things like stomach linings here in local regions.

I would also like to add that while the testimony today has focused extensively on the threats to human health that medical waste poses, I think there is another legitimate concern.

Regardless of how infectious they are, nobody wants to swim in the water where there are shaved laboratory rats and human stomach linings, let alone needles and scalpels.

Regardless of the level of human threat, you're going to have a serious problem with people staying away from the beaches as long as this type of waste washes up on the shore.

In light of the hazards that are posed by medical waste and the tremendous quantities that are generated, we believe that medical waste that pose threats to human health and the environment, and I include in that category not only infectious waste, but other types of medical waste that can pose hazards, should be listed as hazardous until Subtitle C of RCRA, the Resource and Conservation and Recovery Act.

Rather than constructing a whole new separate regulatory scheme for medical waste, which as we all know would take decades to implement, we believe that listing under Subtitle C would incorporate medical waste into the management system that already exists for hazardous wastes. Many medical wastes meet the definition of hazardousness that is outlined in RCRA and we see no reason why medical wastes that do pose hazards to human health or the environment should not be included.

In conclusion, I would like to note that medical waste and sewage contamination are only 2 aspects of a much larger problem of ocean pollution. We have listed some of the other issues that face this region. They are extraordinarily pressing. They demand attention and we appreciate the efforts of this Committee to address some of those issues.

Thank you very much.

[The statement of Lisa Speer can be found at end of hearing.]

Mr. STUDDS. Thank you, very much.

Next, Dr. Schubel, from the Marine Scientist Research Center at the State University of New York at Stony Brook.

Dr. Schubel?

STATEMENT OF DR. JERRY SCHUBEL, DEAN AND DIRECTOR OF MARINE SCIENCES RESEARCH CENTER, STONY BROOK

Dr. SCHUBEL. Thank you, Mr. Chairman. I will be brief and I will concentrate my comments on the question of contamination by floatables, particularly medical waste.

The Summer of 1988 will be remembered for a number of things—3 of those will be that it was an unusually hot summer, secondly beaches were alternately closed and opened because of stranding of floatables, primarily medical waste, and finally there was an explosion of misinformation in the media about the condition of the world ocean and particularly the coastal ocean.

Many believed that the hot summer of 1988 is an early signal of the onset of global warming associated with the greenhouse effect, and that we won't be able to do very much about that. It appears to many people that that scene is going to be played out regardless of what we do.

The closing of our beaches because of floatables I think is quite another story. We could significantly reduce, if not eliminate, the problem of recurrence, but only if we take decisive action. Expressions of outrage and concern won't do it. We must reduce the amounts of waste that we as a society produce, wastes of all kinds but particularly municipal solid waste. We must recycle and reuse as much of these wastes as we can, but finally, we have to recognize that even with aggressive source reduction and recycling, we still will have large amounts of wastes to deal with.

We're going to have to develop carefully designed strategies to deal with them. They have to be strategies that are based upon an assessment of the full range of alternatives across all 3 environmental media—air, land and water. No more quick fixes, no more bouncing from one part of the environment back into another, because we haven't dealt with the problem in a fundamental way.

These same rules apply to medical wastes. We need an effective manifest system to track the wastes from source to sink, and we need economically acceptable means of disposal or destruction within each region. Not in Arkansas, Alabama or even North Carolina or New Jersey. We have to have those solutions in every region.

One of the themes that I've been talking about for quite a few years now has to do with offshore islands. I think this is a prime spot in the United States for the consideration of a large offshore island, an island built of waste products to deal with waste products. It's something we should look at.

As far as floatables, between now and next summer, I think we have to develop strategies to keep them out of the world ocean. We should make provisions for cleaning up beaches promptly. We have to have standard criteria for closing and opening beaches. We simply have to have acceptable standards that are uniform at least throughout the state, if not throughout the region.

One brief comment about ocean dumping—there may be very compelling reasons for stopping it, but the problems of floatables and medical wastes on our beaches is not among them.

Between now and 1992, we need to move quickly to enhance treatment to keep contaminants out of storm drains and sewer sys-

tems or we are still going to have a serious problem of what to do with our sewage sludge.

We don't have time today to talk about how we deal with the proliferation of misinformation, except I think to say that all of us have an obligation to try to get the facts out, to the extent that we know them.

In summary, unless we take decisive steps now, I think we can expect a recurrence of the summer of 1988 in 1989 and 1990. Except for the signature of medical wastes, floatables during the summer of 1988 were not very different from what they were in the summer of 1976 or during all the intervening years.

I'll paraphrase Congressman Downey now that he's back. We not only have to get tough, we have to get smart. And that's going to be a lot more difficult to do but it will be more important in the long run.

Thank you.

[The statement of Dr. Jerry Schubel can be found at end of hearing.]

Mr. STUDDS. Thank you. It's always safe to paraphrase Congressman Downey, whether or not he said it.

Mr. MCGRATH. I eluded my questions to the prior panel that there were groups demonstrating throughout this miserable weekend here on Long Island regarding the shore alert for environmental sanity, and they would like to present to you, Mr. Chairman, a list of 7000 names with more to come of people who are concerned for the shores of Long Island, and also a t-shirt which——

Mr. DOWNEY. On shore alert.

Mr. MCGRATH. Right. Which all demonstrators had on this weekend which advertised the effort, and it was a successful effort and they would like to have you have this t-shirt for the gym.

Mr. STUDDS. Thank you. The list will go into the record and then into the appropriate office. And thank you for choosing the correct size.

Dr. Lawrence Swanson, Director, Waste Management Institute, also at Stonybrook.

Dr. Swanson?

STATEMENT OF DR. R. LAWRENCE SWANSON, DIRECTOR, WASTE MANAGEMENT INSTITUTE

Mr. SWANSON. Thank you. It's a pleasure to be here and to represent the Waste Management Institute.

Another summer beach season has come to a close, and like the summers of 1976 on Long Island and 1987 in New Jersey, this one will be remembered for the beach closures, the faltering tourist trade and perhaps reduced sales of the fisheries market.

For the most part, waterborne waste materials and debris euphemistically called floatables were the root of the problem. Floatables have been a concern in New York and New Jersey coastal waters for over a century. They in fact contributed to New York City's image as one of the filthiest urban centers of the 1800s.

The bulk of the noxious materials continue to reach New York Bight waters and beaches from the same sources in 1988 as in 1976. Major sources of floatables to the New York Bight include com-

bined sewer outfalls, wastewater discharges, solid waste handling, commercial ships, fishing vessels, recreational boaters and beach users.

I would like to emphasize that this is not new. We found this out 12 years ago, and there's no real point in continuing to study the sources of the problem. It is time to take action and I think some of the technology in fact exists to implement it today.

The Hudson-Raritan town estuary serves as the greatest general source of floatable waste to the Bight, since the bulk of the individual sources tend to be located around the periphery of the estuary. Floatables are effectively flushed from the estuary during the time of the spring freshet, typically from March to May in the upper Hudson. The impact of the freshet on the Bight lags this by about one month, so that large quantities of floatables can be expected to be flushed into coastal waters at or near the time of the commencement of the summer beach season.

Other than at the time of the spring freshet, the floatable load at any one time in the estuarine plume is largely a consequence of the relatively recent rainfall history. A heavy rain following extended dry periods, such as in late July 1988 will most likely produce the heaviest volume of floatable material. Streets will be cleansed, sewage treatment plants bypassed and the garbage transfer points and landfills flushed by runoff and perhaps higher storm high waters.

Occasionally, accidental spills and illegal discharges will add to the normal heavy floatable load. Once floatable materials are flushed into the Bight, they are subjected to the physical oceanographic and meteorological processes operating on Bight waters.

Most frequently, they will be carried with the Hudson-Raritan estuarine plume along the New Jersey coast. This is why the beaches at Sandy Hook are so often cluttered with undesirable materials.

The general flow of surface wastes over the continental shelf is from the northeast to the southwest, parallel to the general trend of the coastline. Floatable materials and surface layers are transported with these currents but are also influenced by wind driven transport.

During summer months, prevailing winds have a pronounced effect on the distribution of floatables. Typically, the prevailing wind is from the south to the southwest, but intermittently, shifting to other directions. Floatable materials will generally be well dispersed, some lost at sea, others creating the general clutter that we have objected to on both New Jersey and Long Island beaches.

In 1976, the prevailing summer wind field intensified from the south and was extremely persistent. There were no wind shifts. This occurred for a period of about 2 weeks. Driving the floatable material northward and eastward and eventually onto Long Island. The winds of July 1988 were nearly identical to those of 1976. I refer you to figure 17 of my complete testimony.

In 1987, the winds were much more variable, when on a number of occasions, they blew from the east, coinciding with the washup of floatables on New Jersey beaches.

Illegal disposal has probably been the major source of floatable medical waste during the 1987 and 1988 events. Some medical

wastes are probably mixed in carelessly with domestic solid waste by small medical offices, including dentists and veterinarians and chronic home based patients.

It is important to recognize that the profusion of medical waste on regional beaches in 1987 and 1988 is not a consequence of a technological breakdown. Instead, it is linked to the irresponsible or unthoughtful acts of people.

Perhaps the most effective mechanisms for reducing the medical waste problem is by tightening controls on such waste. The proposed chain of custody for these materials from manufacture to ultimate disposal or destruction should be implemented.

Source reduction is the key to the overall problem of waste management, reducing the total volume of potentially floatable materials. With regard to medical waste, the medical profession and its suppliers must examine the real need for its disposable supplies. Perhaps 20 to 30 percent of hospital waste is plastic, compared to 3 to 6 percent for general municipal solid waste.

Educational programs should be designed to encourage beach users and recreational boaters and marina operators to be more conscientious concerning proper waste proposal. Expanded proposal facilities should be available to all beaches and marinas and the frequency of trash removal increased.

Governments and businesses can perhaps work together to create incentive programs to reduce beach littering and over the side disposal. The state of New Jersey is already instituting some of these types of programs.

There are technological improvements that can and should be made. 1. Improve operation and maintenance of sewage treatment plants and reinstitute emergency power supplies to reduce bypassing during power shortages.

2. Strive to eliminate CSOs. 3. Explore more thoroughly alternatives for isolating material released to the marine environment by combined sewer overflows.

4. Continue to improve the process of removing litter, human excrement, and floatable debris from the streets and other paved areas served by combined sewer systems, particularly in New York City.

5. Improve solid waste handling practices aimed toward recycling and use of waste as an energy source. 6. Improve the process of transferring materials to landfills and reduce the volume of materials escaping to marine waters from landfills.

Short of these improvements, we must be prepared to suffer the consequences of floatable beach pollution and associated beach closures. Climatic conditions in the region just before and during the summer, including high spring run off, intense thunder storms, high stages of monthly sea level lead to large floatable loads in the harbor.

Power outages and brownouts caused by electrical storms and summer heat increase the likelihood of sewage treatment plant breakdowns and bypassing, thus potentially adding to the already large floatable burden.

Unfortunately, both Long Island and New Jersey beaches are vulnerable to washups of floatables. Hudson River Plume will continue to transport its floatable load along the northern New Jersey

coast where it can periodically be transported shoreward. Long Island is particularly vulnerable because of the normal southerly wind field during summer months. The daily on shore sea breezes intensifies that mean flow.

Until fewer potential floatables are manufactured, controlling their dispersal will be increasingly costly and uncertain. Until source control is more effective, beach cleaning efforts are the remaining solution.

On Labor Day 1976, we put the floatable problem out of our minds hoping that it would disappear. It is important not to let the passage of summer dim our memories this year. We must realize that these improvements will be costly.

This concludes my testimony and I'll be glad to answer questions.

[The statement of Dr. Swanson can be found at end of hearing.]

Mr. STUDDS. Thank you very much.

Mr. Leslie Bennett, legal counsel for the Nassau/Suffolk Hospital Council.

Mr. Bennett?

STATEMENT OF LESLIE BENNETT, LEGAL COUNSEL, NASSAU/SUFFOLK HOSPITAL COUNCIL, ON BEHALF OF ROBERT LORD, EXECUTIVE VICE PRESIDENT, NASSAU/SUFFOLK HOSPITAL COUNCIL

Mr. BENNETT. Mr. Chairman and members of the Subcommittee, I represent the Nassau/Suffolk Hospital Council, Inc. I'm honored to appear before the Subcommittee today to express the Council's views on matters related to hospital wastes.

Unfortunately, the Council's executive vice president Robert Lord could not be here today. In his absence, I would like to read his brief statement into the record:

Mr. Chairman and members of the Subcommittee, I am Robert S. Lord, Executive vice president of the Nassau/Suffolk Hospital Council, Inc. which represents 22 not for profit acute care hospitals on Long Island. I appreciate the opportunity to provide testimony on issues related to infectious waste.

The main point I would like to make today, and which I believe has been overlooked in the search for a solution to medical debris on Long Island beaches and other shores—is the serious lack of disposal capacity for infectious waste. The Council strongly believes that legislatures and government agencies examining potential solutions to the infectious waste issue should focus their attention on ways to sponsor and assist in the development of environmentally sound disposal facilities.

The Council fully supports the efforts of government at all levels to foster a safer environment. However, it is our view that existing state laws, such as the New York State Infectious Waste Law which was passed in 1987, provide more than adequate protection. Thus, rather than adding new layers of laws and regulations, governments should confront the real issue: the lack of adequate disposal facilities.

With that theme in mind, I would like to comment on three issues which are central to the development of a sound infectious waste policy—one, the definition of infectious waste; two, handling

and disposal procedures and three, the incineration of infectious waste.

Definition—it is our view that there is no need for Congress or any federal agency to create a new definition of infectious waste because none of the problems currently related to infectious waste arises out of any definitional problem. Definitions contained in most current state laws, like New York's, adequately define those items that may be considered infectious.

Often, Congress and federal agencies are asked to provide a uniform nationwide rule or standard so that the regulated community is not subjected to conflicting standards. With infectious waste, there is no such need. Very few generators of infectious waste are interstate entities that have more than one state's definition to deal with.

Consequently, we agree with the October 21, 1987 testimony of Linda Lee on behalf of the American Hospital Association before the Subcommittee on Transportation, Tourism and Hazardous Materials of the Energy and Commerce Committee on the regulation of infectious waste, in which she indicated that states are probably in the best position to identify and deal with problems related to infectious waste.

I would like to make one further point with respect to the definition of infectious waste. The Council strongly opposes any effort at the federal, state or local level to include ordinary hospital waste within the definition of infectious waste.

As I will discuss later, there is no evidence that waste other than that which has already been identified by most state legislatures as infectious poses any more of a threat to human health and the environment than common household garbage. Inclusion of ordinary hospital waste within the definition of infectious waste is not supported by the scientific literature and thus would impose unnecessary, burdensome and costly requirements on hospitals and other health care providers.

Hospital procedures—the Council agrees that a manifest system can be helpful to provide tracking of infectious waste. New York has recently adopted a manifest system modeled after the EPA manifest system for hazardous wastes. Again, because so few generators of infectious waste are interstate entities, we see no need for a nationwide uniform system. However, if a nationwide system is imposed, we urge that such federal legislation pre-empt state and local requirements so that generators are not subjected to conflicting and burdensome requirements.

With regard to internal hospital procedures, we see no need for Congress or any federal agency to take action. We are aware of no evidence that current procedures are creating risks for either hospital employees or patients.

Incineration of infectious waste—the New York State Department of Health's plan for treatment and disposal of infectious waste, dated August 1988, states that incineration is the best solution to the problems of infectious waste.

A recent survey by the Council of state governments found that existing or proposed regulations in 72 percent of the states recommend incineration as the preferred method of disposal of infectious

waste. Incineration is the best solution because it renders the waste non infectious in an environmentally sound manner.

The New York State Department of Health Plan notes that there are presently a number of barriers to the development of greater incineration capacity. Among those barriers are citing problems caused in part by public fears and economic burdens. Federal and state governments have the ability to reduce each of these barriers.

The public fear can be addressed through public education campaigns. In congressional testimony dated October 27, 1987, William A. Rutala stated on behalf of the Association for Practitioners in Infection Control that the potential risk from hospital waste is in many cases less than the potential risk from ordinary household waste. In testimony on the same day, Linda Lee, representing the American Hospital Association, stated that because most pathogens are extremely fragile outside of the human body, the risk to the environment is slight.

And John McVicar, the Director of the Office of Biosafety at the Center for Disease Control, quoted as follows from the CDC's recommendations on the handling of hospital waste—

> There is no epidemiologic evidence to suggest that most hospital waste is any more infective than residential waste, or that hospital waste has caused disease in the community.

It is essential that legislators act based on the facts rather than based on public hysteria. The New York State Department of Environmental Conservation for example, has recently issued proposed regulations which require a permit to transport non-infectious medical waste. Based on the epidemiologic evidence described above, we can only conclude that such a regulation is based on emotion rather than reason.

As regards economic burdens, it is important to recognize that waste disposal costs are largely nonreimbursable. To the extent that they threaten the financial stability of health care providers, such costs present a health care need to which governments have a duty to respond. Very few hospitals can afford to build new incinerators or to retrofit their current systems to meet new state of the art standards.

Such cost burdens could be greatly reduced by the development of regional incinerators. Such incinerators could be constructed on a cost shared basis, with each hospital contributing an amount that is proportionate to the amount of waste it generates. Such a local or regional system would also greatly reduce regulatory concerns related to the transportation and handling of infectious waste.

The Council urges governments at all levels to subsidize these projects to insure that the necessary disposal capacity is made available. Such support could be provided in the form of land allotments, direct payments, tax relief and research support.

In sum, we respectfully urge that Congress and other legislative bodies recognize and address the real issue—the lack of disposal capacity. Regional incineration can meet that need effectively and safely. However, incineration is costly and approval for such projects is difficult to obtain. Government support for such projects would effectively eliminate present infectious waste problems.

The Council appreciates this opportunity to state its views on this important matter and would be pleased to provide additional information or comments should the Subcommittee so desire.

That concludes Mr. Lord's statement. On behalf of the Council, I thank the Subcommittee for the opportunity to appear and to present this testimony.

Mr. STUDDS. Thank you, Mr. Bennett.

Finally, James Larocca, president of the Long Island Association.

Mr. Larocca, welcome.

STATEMENT OF JAMES LAROCCA, PRESIDENT, LONG ISLAND ASSOCIATION, ACCOMPANIED BY MITCHELL PALEY, DIRECTOR, LEGISLATIVE AND ECONOMIC AFFAIRS

Mr. LAROCCA. Thank you, Mr. Chairman. We're joined at the table by Mitchell Paley who is our director of legislative and economic affairs for LIA.

Long Island Association is the region's largest business and civic organization. We represent all of the major employers on Long Island and thousands of small businesses.

In that capacity, I'd like to welcome to Long Island the representative of Congress of the nation's second most beautiful coastal environment.

The lineup at this table is appropriate in the respect that you have here representatives of the Natural Resources Defense Council and the business community. On Long Island, there is a recognition that environmental and economic issues are very closely intertwined, and on many issues that in other parts of the country find these communities at odds, on Long Island these communities are very much together.

As we sit here today and listen and hear similarities to a meeting we held on August 4 among various federal, state and local officials, we find ourselves with an overwhelming sense of deja vu. We've been to these meetings before. We've heard these discussions before and depending on who we are, it goes back any number of years.

There is a great upsurge this summer in public attention to this, but there is very little that is new about the problem we face. We make the observation that so far as we know, no one was hurt, no one was made ill by anything that happened this summer, yet our tourist and recreational economy was devastated by the sense, the perception of threat to health and safety that was posed by all of these events, and as the summer ends, we hear other witnesses say that we are as vulnerable and susceptible to the experience of this summer being repeated time and time again into the future.

When we met on August 4, we had a room filled with federal and state local officials who draw their salaries for purposes of protecting our environment against the kind of threats we had this summer, and while we intend no disrespect for any of those people, it was striking that so much public attention, public money, public personnel are devoted to this matter of protecting us and yet we felt very exposed, very vulnerable to the point where parents were afraid to have their children go to some of the most spectacular beaches and coastal environments anywhere in the world.

The business community recognizes that leadership is necessary in this area, and we are prepared to be part of that leadership, but perhaps more importantly, to be part of the followship that is the other side of leadership in this matter.

With so much government attuned, and as Al D'smato said the other day, you see this as a "summer of awakening", if so much awakening has occurred, we're prepared to do our part to support the bringing together of these programs, of these efforts so that in fact we protect ourselves into the future.

I'd like to hand up for your consideration our prepared testimony for today, as well as the report of the meeting of August 4, and hopefully you will find it helpful in your deliberations.

We thank you for the great seriousness with which you've approached this and by honoring us by your visit here today.

[The statement of James Larocca can be found at end of hearing.]

Mr. STUDDS. Thank you, sir.

You just reminded me of what I gather is your analog of Cape Cod Chamber of Commerce there. The letterhead says the environment is the economy, and I appreciate that.

Mr. Bennett, I'm looking at your written testimony. You say it's our view that existing state laws provide more than adequate protection and then you refer to the law of the state of New York.

Mr. BENNETT. Yes.

Mr. STUDDS. You're not under any illusion that the other 49 states have roughly similar laws?

Mr. MCLANE. Many of the states have similar legislation addressed to infectious waste. To the extent they don't, I think Council of State Government's report indicates that virtually all the states either presently have such laws or are working towards such legislation.

Mr. STUDDS. You see no need for national legislation?

Mr. MCLANE. We basically see no need for further layers of regulation. Our concern is that the more and more regulation, the more expensive it will become for hospitals to deal with the problem. That the real critical issue that must be focused on is a lack of disposal facilities and that if more regulations are imposed without considering that basic problem, you will never really resolve the concern or the issues that have arisen lately.

Mr. STUDDS. What if they were imposed taking due consideration of that basic problem?

Mr. MCLANE. And also recognized that the cost factor imposed on hospitals, these are non reimbursable costs and couple that with some type of reimbursement for the hospital community, then I think that will be a sensible solution.

Mr. STUDDS. Which is money.

Mr. MCLANE. Yes.

Mr. STUDDS. Surely, you haven't been listening to the presidential campaign.

Mr. MCLANE. I have been listening to that campaign.

Mr. STUDDS. We're not going to have any money. However, we're going to do a great many things. It's wonderful. So easy. I hear what you're saying.

Dr. Schubel, if we had more time and leisure than we had, I'd like to hear more about your idea of a waste island, starting with

your best 5 suggestions for its name and a discussion as to which of the 4 New York Congressional districts here represented would be the ideal place for it.

However, where we live we're conscious of the prevailing southwesterly winds, which Dr. Swanson analyzed at such length and where that brings it. It's an intriguing thought. I like that.

Ms. Speer, did you state in your written testimony that Senator Lautenberg's legislation for the tracking system covering on a pilot basis this region of New York, New Jersey and Connecticut—do you feel that should be expanded and do a national approach?

Ms. SPEER. That's correct. Only 4 states regulate transportation right now of medical waste. The tracking system that would be in place under that bill for this region would be an important first step.

As we've seen, medical waste has washed up on the shores from Cleveland to North Carolina to Maine. It's not simply a 4 state problem. It stretches the length of the east coast and indeed to the Great Lakes. That's why we feel that all regulation of medical waste, or at least more than is present, should be controlled by the federal government and not by individual states.

Mr. STUDDS. Would you like to respond more precisely than that to the suggestion of the hospital folks that existing state laws are adequate to do the job?

Ms. SPEER. Our data also comes from the Council of State Government reports, and only 4 states regulate transportation; only 4 states regulate steam sterilization, which is one of the primary means of disinfecting medical wastes; 12 states allow untreated medical waste to be placed in landfills, just plain old regular municipal landfills.

This kind of lack of controls in many of the states, and the inadequate controls in other states, lead us to conclude that federal regulation is required to adequately control them.

The other thing I'd like to respond to is this frequently cited assertion that medical waste poses no more threat to human health than household waste, which I've seen very frequently in the press.

First of all, I assume it doesn't apply to infectious waste, but even leaving that aside, simply because waste is not infectious does not mean it doesn't pose any problems to human health or the environment. Needles and scalpels, regardless of whether they're sterilized, are dangerous. If they're washing up on beaches and in places where people can step on them.

In addition, there are other medical wastes can pose hazards, like waste drugs from chemotherapy which can be very toxic, or radioactive wastes. The medical profession uses a lot of radioactive materials and not all of them are governed by the Nuclear Regulatory Commission.

The treatments themselves can pose hazards. Incineration as Mr. Downey mentioned generates tremendous quantities of 2 carcinogens, dioxins and furans, so does the fly ash. Even the treatment of this waste can generate hazards.

The whole argument rests on this premise that hazard is the only problem. There are other problems like aesthetic concerns. You're not going to have people wanting to swim in the ocean

when they're are laboratory rats and human stomach linings floating around.

Mr. STUDDS. Last time you did that, you emptied the table.

Ms. SPEER. I noticed that. In closing, I would just like to say that the household waste argument does not really adequately explore all the potential threats that are posed by medical waste.

Mr. STUDDS. Mr. Bennett, in fairness, would you like to respond to that?

Mr. BENNETT. I'd first like to say that the reference to radioactive waste and chemical waste has nothing to do in my remarks. I was not including radioactive or chemical hazardous waste within the comment of other hospital waste, separate and apart from infectious waste.

I think the concern that the Council has and many other hospital organizations is that there really is no scientific evidence to support the issue of treating ordinary hospital waste different from infectious waste, and again the concern comes back to money and the burdens placed on hospitals. I think a few statistics are appropriate.

I think based on a survey of the local hospitals on Long Island, approximately 17 percent of their waste constitutes what is called infectious waste. Approximately 75 percent of the remaining waste is typical medical waste which is not infectious. The remainder of the waste is composed of perhaps chemical, radioactive which is very small amounts, from 2 to 4 percent and the rest is cafeteria waste.

The bottom line is that it presently costs those hospitals eleven cents a pound to dispose of the ordinary hospital waste and 76 cents a pound to dispose of the infectious wastes. Similar burdens are placed on hospitals to deal with the non infectious medical waste that will simply be an astronomical, economic burden which will be impossible for hospitals to address under the current conditions.

We share the concern for aesthetic problems; however, you have to realize where this leaves the hospitals who are after all health care institutionals, who are trying to address true medical needs for the public. All legislators have to be aware that imposing additional legislation and additional burdens will not answer the basic problem which is the lack of disposal capacity and the related costs.

Mr. STUDDS. Anyone else want to speak on that particular subject?

[Pause]

Mr. STUDDS. Ms. Speer, the Council of State Governments—as I understand it, that study does not come down precisely in the same direction that you folks do with respect to how we should proceed from here. We think you should deal with this in an existing program for handling hazardous wastes. They suggest a different direction.

Where and why do you part company with them?

Ms. SPEER. I am going to ask the person who has done the most looking at this, Andrew Kass, a researcher with NRDC to answer that question, and if we can't, we'll get back to you in writing.

Mr. KASS. Thank you, Mr. Chairman, for allowing me to answer the question.

Today, when we've looked at the issue of managing medical waste, we're seeing that it's a comprehensive and far reaching problem. It's a problem that addresses treatment, such as incineration. It's a problem that addresses interstate transportational issues, landfilling, labelling, proper containment and packaging and worker training and incinerator operators.

In looking at the RCRA system, we believe that that system can address all of those areas and we feel that only that type of a comprehensive system can appropriately the address of medical waste.

Mr. STUDDS. I'll go to Mr. Lent.

Mr. LENT. Thank you, very much. I also want to thank all of the witnesses.

Dr. Swanson, is it not a fact that you testified here in this very building when I was here also back in 1976?

Mr. SWANSON. That's correct, and I think we also walked the beaches.

Mr. LENT. Right. It's nice to see you again. I'm sorry we haven't kept up our friendship, but you haven't aged a day, just like me. What have we failed to do to wind up here together 12 years after the fact? I think the 1976 washup was far more voluminous than the washups this year, although they're still bad.

Is there something that government should have been doing in the intervening 12 years that we haven't been doing?

Mr. SWANSON. I think I tried to list some of those. I think we have totally ignored the problem of storm sewer runoff and in particular the combined sewer overflow problem. These are the major sources contributing to sewage related waste.

Mr. LENT. You were here when I was questioning the gentleman from New York City, Mr. Sexton. I was trying to quantify what was really the major culprit here as compared to people throwing stuff off boats, which I think is a terrible thing, and beach debris. In terms of quantity, don't you think those 2 culprits which you just mentioned, the stormwater runoff and the other are really the major causes of our garbage problem here on the beaches of Long Island?

Mr. SWANSON. Yes. I believe that they are. In terms of quantification, I don't think we can put precise numbers on them, but if you recall when we walked the beaches before, we counted some 17,000 tampons applicators on Fire Island alone. Those did not come from anything other than the sewage treatment system and the combined sewer overflows.

It's not an easy problem to deal with. To resewer New York, we all know, would cost billions of dollars. Nevertheless, there are some technologies that can be explored. They are being explored. I think we should put more resources and effort into looking at that particular problem now.

If I can make one comment with respect to improvements, in 1976 we had about 450 million gallons of raw sewage going into New York Harbor on a daily basis. That fortunately has decreased to about 1 to 2 million gallons per day precluding any breakdowns.

Dr. SCHUBEL. Could I add a word to that? I think in addition to what Larry has said, over that last 12 years as a nation, we've also

seen that we have continued to produce more and more municipal solid waste, garbage and trash, and the rate at which we produce it has increased more rapidly than the population.

We have the dubious distinction here on Long Island of having the highest, per capita production of garbage and trash anywhere in the world. The U.S. averages somewhere between 5 and 5½ pounds per person per day. On Long Island, the data are soft, but many people believe that we probably are pushing 7 pounds per person per day.

Mr. McGRATH. Why is that?

Dr. SCHUBEL. I think there are a number of factors that go into it. We're one of the more affluent regions of the country. The percentage of 2 worker families is higher here than throughout the country. This increases dependence on convenience foods and there are known for their excess packaging. All of these factors contribute to the increased production of garbage and trash on Long Island.

Mr. LENT. I sit on the board of a hospital which a couple of years ago tried to build, at a cost of several hundred million dollars a modern, up to date, environmentally pristine incinerator for the disposal of so called redbag waste. When they went to the town zoning board for approval, hundreds and hundreds of neighbors of that hospital showed up and protested and I don't have to tell you in the end, they were denied the right to build that incinerator. Probably that hospital now turns over redbag waste to a carter, and pays a very handsome price for the privilege.

Do hospitals have any way of knowing today what that carter does with the waste? There's no manifest system presently in existence, is there?

Mr. BENNETT. There is a system now in New York State which has just started, but up until the recent proposed emergency regulations, there was none.

Mr. LENT. Some of these bills we're talking about would have a cradle to the grave type system, where the generator of the waste, in this case the hospital or the laboratory or the physician or the clinic would have to keep track through a paper trail to assure that ultimately that waste was not dumped in the Hudson River off a pier in Brooklyn, but in fact goes to wherever the facility is. There's one in Tom Downey's district and I think there may be one up in Buffalo.

I suppose the economic incentive to the carter who may not be of the highest ethical character, must be very great to shortcut the system and dump the waste. But if there's a manifest system, it would seem to me the incentive would be much greater for the carter to take it to an environmentally improved disposal center and have that manifest or that paper trail completed.

Has the hospital association taken a position for or against these pending bills having to do with manifesting?

Mr. BENNETT. In terms of the pending bills, I can't tell you per se which of the pending bills we're in favor of or not. We certainly believe as Mr. Lord indicated in his statement, that manifest system would be helpful certainly to deal with the problem of the unknown, once you give your waste over to even a reputable licensed carter. You don't really know what will happen to it, and in

fact, that is one of the problem that we confront with the hospitals in representing them, to create agreements which were as tight as possible, to insure the hospital is protected from inappropriate disposition of waste, but certainly a manifest system would be helpful.

Mr. LENT. I've been to enough of these environmental meetings and resource recycling, licensing hearings to know that people from the environmental community usually recommend recycling to solve most problems. It seems to me that particularly in this medical field, we're going the opposite way. When my kids were born, we recycled the diapers. Today everybody buys pampers or some other disposal kind. Some of them wash up on our beaches here every morning.

The hypodermic needles—my aide said that when he was in the service he used to sharpen the hypodermic needles. We used them over and over again. Today we throw away the hypodermic. We don't wash and sterilize the bandages and reuse them any more. We seem to be going in exactly the opposite direction from recycling. Instead most surgical gowns and most hospital and medical products today are throwaway type products, many of them plastic.

Where does the environmental community now stand when it comes to medical waste? Are you still insisting on the recycling or do you feel that there ought to be an exception to the recycling ethic carved out with respect to medical waste?

Ms. SPEER. I think you raise a very important issue and we believe that recycling should be employed whenever it can be safely used. There are a number of questions about the ability or whether people can actually guarantee that needles for example, would be sterilized. Those concerns lead us to qualify our support for recycling to the extent that it does not endanger human health in any way, but I agree with you 100 percent in that whatever can be recycled should be recycled, and I think we may see hospitals moving in that direction as the costs of disposing of these materials gets higher and higher.

Mr. LENT. Thank you.

Mr. BENNETT. Let me add a comment on that—I guess there's a basic problem in recycling the hospital area, and this may sound funny. I don't intend to be facetious or humorous. I think it's difficult if not impossible to recycle amputated arms or legs. I think recycling as a practical may be very difficult if not impossible with respect to the unique category of medical or hospital waste.

In terms of disposables, that indeed is the state of the art in hospitals for sanitary reasons and to prevent recurring infections or other medical problems and that is indeed one growing problem that has to be dealt with here.

One thought that Mr. Lord had that unfortunately didn't make its way into these remarks, in an effort to be as brief as possible and in an effort to keep within the 5 minute limit was that he does in fact support a pilot program at the federal, state or local level to develop research or research the possibility of utilizing non disposable materials to the maximum extent possible and to reverse that trend.

You've hit upon an important problem that disposables are the state of the art and that is a basic problem with the current state of hospital waste.

Mr. DOWNEY. I want to thank the members of the panel. The testimony has been very good.

I'm interested in the idea of whether or not we will have the ability over the next several months or years of those of you who are watching this issue to quantify what we've learned. Norm made the point that he was here in 1976 and I think Dr. Swanson mentioned that the City of New York has fairly dramatically reduced the amount of raw sewage that gets pumped into the river. The problem is that it doesn't appear to me to be any time in the near future that the CSOs will be diminishing. We've heard some discussion of that from Mr. Marsh and Mr. Sexton.

Ms. Speer, Dr. Schubel, Dr. Swanson—have you been tracking the work or the proposals that the city has made with respect to eliminating or reducing the discharge from the combined sewer outfall?

Ms. SPEER. While you were out of the room, I briefly addressed that. The City CSO abatement plan I think is a very good one, or they're proceeding along very good lines. The problems that we see primarily relate to the fact that the city has had these abatement plans for years, decades. The City has been concerned about CSOs for at least 20 years, and unfortunately the only retention basin that we know of that's been constructed is one out in Spring Creek and that was built in the 1960s.

Since then, there has been very little progress towards actually abating the CSOs. There's been a lot of money spent on plans and studies, but actual construction to begin——

Mr. DOWNEY. Aren't we talking about is we're serious about dealing with CSOs, just an extraordinarily amount of money—not on the order of rebuilding the sewer system, but not far from it.

Ms. SPEER. I think that's right. It's a common misperception that you have to tear up the streets of New York, but that's not the case. There are possible fixes, like retention basins that hold the water and let it seep back through the sewage treatment plants after the rainstorm. Those are very expensive, though.

But I would submit that unless we start investing in that, all of the gains that we've made through secondary sewage treatment plants are going to be completely undermined.

Dr. SCHUBEL. I certainly agree with everything Lisa said. I think we shouldn't lose sight of the fact that even if we solve that particular problem, there are other components of the overall problem that we must deal with. We have to begin to deal with them between now and next summer, or we can expect to see our beaches closed again. Those are the things we should not lose sight of.

I would recommend that we start with some of the easiest of those and begin now so that we have plans in place by Memorial Day next year. While we will not eliminate beach closings, I think we could significantly reduce the probability of having to close our beaches.

I think both panels have identified probably 4 or 5 things that we could do between now and next May that would have an impact.

Mr. DOWNEY. Go over them for me.

Mr. SWANSON. I would start first of all with establishing criteria for closing and for opening beaches. I would, at least, make them

uniform within state, if not within the region. I would work to have methods for rapid cleanup of beaches, once floatable incidents occur. I would work to put in place the manifest system that you've talked about for medical waste and I would begin now to work on having acceptable alternative ways for disposal of the medical waste once they are delivered to their ultimate destination.

They have to be acceptable in terms of human health, the environment and the economy and right now we don't have those. And, so long as it costs so much to get rid of those wastes, I think we're going to see an increase in the amount of illegal dumping of medical waste even with the manifest system.

Mr. MCGRATH. One of the recommendations is a uniform standard of closing and I would hope the inference from that is not that local health departments would have to exceed a certain standard of level of coliform in the water to take precautions for the health of the bathers. I would hope it would be just the opposite of a directive.

Dr. SCHUBEL. We do have uniform standards for coliform counts and they're nationally uniform. I think it's important that we have some criteria that are at least uniform throughout the state so that if floatables and medical wastes appear on our beaches, we have some criteria that are generally accepted in order to close our beaches and then to reopen them.

I think what we've seen this past summer is that in the absence of criteria or standards, we have been very conservative and as a result, we probably closed many beaches when they didn't have to be closed and we probably kept them closed longer than they had to be kept closed. As a result, the impact on the economy has been staggering.

Mr. DOWNEY. I think that Mr. LaRocca made the point about the suffering of the local merchants which was quite severe. Dr. Swanson?

Mr. SWANSON. I agree with looking at the catch basin idea for CSOs as an alternative to rebuilding the sewer system; however, even that is a long way down the road. I think it might be important for EPA perhaps to look at another interim solution and that is the notion of skimming the harbor waters for floatable after significant rainfall events, much the way the Corp of Engineers is skimming them for driftwood.

Mr. DOWNEY. The same practice applies—was it netting?

Mr. SWANSON. Essentially large scoops that skim the surface material and surface waters. I'm not sure how effective this would be, but if scoops could even reduce the amount of material that's escaping by 20 to 40 percent, that's potentially enough to keep the beaches from being as badly impacted as they were this year.

Mr. DOWNEY. I believe you were in my office one of the days you were headed off to take a look of the problem?

Mr. BENNETT. Maybe somebody else from the Hospital Council.

Mr. DOWNEY. It seems to me you don't want to be in the position to be blamed for things you haven't done, and it would further—Norm has put his finger on it. A uniform system around the country—we talked about the coliform count to be a national standard.

I did some research on this a couple of years ago. I found it to be a standard that was set in 1922 that as far as I can tell has never

been changed and never been improved upon, and it was designed back then because of oysters and the problem that people had and has been updated and looked at but it has never seriously been examined in terms of—I suspect it's probably still an effective measure but I don't know that we have uniform standards that make much sense up and down the coast.

We have a variety of state laws from Maine to Maryland and across the country and it seems to me the hospital association should be doing a couple of things. Pointing out, doing the best education job they can, asking us for this manifest system with uniform standards and then coming back to those of us who are in a position to reimburse you and have them become part of medicare and medicaid reimbursement which could conceivably be something in this current climate that we might be interested and prepared to do, so that some of the costs can be truly reflective of the costs you incur.

Absent that, it seems to me that you don't want to be in the position—I find some of our friends saying this is more government red tape and regulation because even good republicans like Norman and Ray will be happy to saddle us with a lot more regulation and red tape if it means that the beaches will stay open.

I think we can work this problem and I would hope all minds are open to it.

Mr. McGRATH. Thank you. Just to end up this session on a heightened note. I think we've had a very good meeting today. We've explored everybody's problems and Ms. Speer, you've had a good answer for everybody's questions this morning. I think Mr. Larocca articulated very well the concerns of the business community. We got another perspective from Mr. Bennett in terms of their problems and you've got the educational research and practical effects out of our friends from Stonybrook.

Given the perspective of this panel plus the governmental perspective this morning, I think we've put our finger on what the problems were. We'll be able to go back to our constituents now—a number said how did this happen? I didn't have a heck of a lot of good reasons for them. I have better reasons now and perhaps some better solutions.

With full recognition that long term solutions are costly and they are something in the distant future.

I think this has been a good effort. I think we've established a fairly good record and I'd like to thank you and Norman and Gerry Studds for coming to this and bringing these panels together and giving us the insight of their expertise.

Mr. DOWNEY. I appreciate it. I think it's been tremendously helpful.

Thank you.

[Whereupon, at 3:20 p.m., the Subcommittee recessed at the call of the Chair.]

[The following was submitted for the record:]

100TH CONGRESS
2D SESSION

H. R. 5231

To amend the Marine Protection, Research, and Control Act of 1972 to strengthen prohibitions on dumping into ocean waters, to provide for recovery of damages associated with dumping which affects ocean waters, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

AUGUST 11, 1988

Mr. STUDDS introduced the following bill; which was referred to the Committee on Merchant Marine and Fisheries

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A BILL

To amend the Marine Protection, Research, and Control Act of 1972 to strengthen prohibitions on dumping into ocean waters, to provide for recovery of damages associated with dumping which affects ocean waters, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Medical Waste Sanctions Act of 1988".

SEC. 2. FINDINGS.

The Congress finds the following:

(1) The washing ashore of medical wastes and other debris may pose serious and widespread risks to public health and to the health and welfare of coastal communities.

(2) Current Federal law provides inadequate protection against the illegal disposal of such wastes into the marine environment.

(3) Explicit prohibitions on the disposal of medical wastes into the marine environment and increased sanctions against such disposal are necessary to deter the illegal dumping of medical wastes and other debris into the marine environment.

SEC. 3. PROHIBITION OF DUMPING OF MEDICAL WASTES INTO OCEAN WATERS.

Subsection (a) of section 102 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1412(a)) is amended in the first sentence—

(1) by striking "biological warfare agents and" and inserting "biological warfare agents,"; and

(2) by inserting "and medical waste," after "radioactive waste,".

SEC. 4. INCREASED PENALTIES.

Subsection (b) of section 105 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1415(b)) is amended—

(1) by striking "$50,000," and inserting "$250,000,"; and

(2) by striking "one year," and inserting "5 years,".

SEC. 5. CIVIL LIABILITY FOR ILLEGAL DISPOSAL AFFECTING OCEAN WATERS.

The Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1401 et seq.) is amended—

(1) by redesignating sections 111 and 112 of such Act as sections 112 and 113, respectively; and

(2) by inserting after section 110 the following:

"SEC. 111. CIVIL LIABILITY FOR DUMPING OR DISPOSAL AFFECTING OCEAN WATERS.

"(a) ESTABLISHMENT OF LIABILITY.—Any person who, in violation of any Federal law or of any permit issued under Federal law—

"(1) dumps or disposes of material into ocean waters;

"(2) engages in dumping or disposal of material which affects ocean waters; or

"(3) causes or arranges for such dumping or disposal;

is jointly and strictly liable for removal costs and damages specified in subsection (b) caused by such dumping or disposal.

"(b) COVERED REMOVAL COSTS AND DAMAGES.—

"(1) REMOVAL COSTS.—Removal costs referred to in subsection (a) are costs reasonably incurred—

"(A) in removing material from the water or shoreline; or

"(B) in taking other actions to prevent, minimize, or mitigate damage to the public health or welfare (including damage to fish, shellfish, wildlife, and public and private property, shorelines, and beaches);

which shall be recoverable by any claimant.

"(2) DAMAGES.—Damages referred to in subsection (a) are the following:

"(A) NATURAL RESOURCES.—Damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss, which shall be recoverable by the United States or a State.

"(B) REAL OR PERSONAL PROPERTY.—Damages for injury to, or economic losses resulting from destruction of, real or personal property, which shall be recoverable by a claimant who owns or leases such property.

"(C) REVENUES.—Damages equal to the loss of taxes, royalties, and rents due to the injury

or destruction of real or personal property or natural resources, which shall be recoverable by the United States and any State or political subdivision of a State.

"(D) PROFITS AND EARNING CAPACITY.—Damages equal to the loss of profits or impairment of earning capacity due to the injury, destruction, or loss of natural resources, which shall be recoverable by any claimant who derives at least 25 percent of the claimant's earnings from the activities which utilize the natural resources, or, if such activities are seasonal in nature, 25 percent of the claimant's earnings during the applicable season.

"(c) DEFENSES TO LIABILITY.—A person shall not be liable for removal costs and damages under this section if the person establishes that the dumping or disposal—

"(1) resulted from an act of God, an act of war, hostilities, civil war, or insurrection; or

"(2) was caused solely by an act or omission of one or more persons other than—

"(A) an employee or agent of the person; or

"(B) one whose act or omission occurs in connection with a direct or indirect contractual relationship with the person.

"(d) NATURAL RESOURCES.—In the case of an injury to, destruction of, or loss of natural resources under this section, liability shall be—

"(1) to the United States Government for natural resources belonging to, managed by, controlled by, or appertaining to the United States; and

"(2) to any State for natural resources within the State or belonging to, managed by, controlled by, or appertaining to such State.

"(e) USE OF RECOVERED SUMS.—Amounts recovered under this section by the United States or a State shall be retained for use only to rehabilitate, restore, replace, or acquire the equivalent of such natural resources.".

SEC. 6. EFFECTIVE DATE.

This Act shall apply to acts and omissions occurring after January 1, 1988.

TESTIMONY OF LANGDON MARSH

EXECUTIVE DEPUTY COMMISSIONER

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

BEFORE THE HOUSE SUBCOMMITTEE ON FISHERIES

AND WILDLIFE CONSERVATION AND THE ENVIRONMENT

SEPTEMBER 6, 1988

WANTAGH, NEW YORK

GOOD DAY. I AM LANGDON MARSH, EXECUTIVE DEPUTY COMMISSIONER, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.

THANK YOU FOR THE OPPORTUNITY TO DISCUSS THE CAUSES OF THE RECENT BEACH CLOSURES, TO DESCRIBE HOW WE IN NEW YORK ARE DEALING WITH THIS PROBLEM, AND TO RECOMMEND STEPS WHICH COULD BE TAKEN AT THE FEDERAL LEVEL TO HANDLE THIS MOST DIFFICULT ISSUE.

BEACHES WERE CLOSED FOR MANY REASONS THIS SUMMER. THEY WERE CLOSED BECAUSE OF HEAVY GARBAGE WASHUPS, SOME OF WHICH INCLUDED MEDICALLY RELATED DEBRIS; THEY WERE CLOSED BECAUSE OF HIGH COLIFORM BACTERIAL COUNTS, SOME OF WHICH WERE ASSOCIATED WITH SEWAGE TREATMENT PLANT BYPASSES OR MALFUNCTIONS, AND SOME OF WHICH WERE NOT; SOME BEACHES WERE CLOSED AS A PRECAUTION - BECAUSE ADJACENT BEACHES HAD HIGH COLIFORM COUNTS, OR BECAUSE OF A PRIOR INCIDENT, OR BECAUSE OF THE APPEARANCE OF SEWAGE RELATED MATERIAL.

APPENDIXED TO MY WRITTEN TESTIMONY IS A LISTING OF THIS SUMMER'S BEACH CLOSINGS IN NEW YORK STATE.

TAKEN TOGETHER, THE GARBAGE WASHUPS, MEDICAL WASTE WASHUPS, SEWAGE SPILLS, AND HIGH BACTERIAL COUNTS, ALL HAD A SYNERGISTIC EFFECT ON PUBLIC PERCEPTIONS: THIS RESULTED IN THE INTENSE MEDIA COVERAGE CULMINATING IN COVER ARTICLES IN THE NATIONAL MAGAZINES. IN TERMS OF THE PUBLIC'S INNATE IDENTIFICATION WITH THE OCEAN AND OUR CONCERN FOR ITS INTEGRITY, THE REACTION IS UNDERSTANDABLE, EVEN IF THE ESTIMATE OF THE PUBLIC HEALTH DANGER WAS OVERDRAWN BY MANY. WE EXPECT OUR BEACHES TO BE CLEAN, HEALTHY-LOOKING AND ATTRACTIVE.

THE SUSPECT CAUSES OF THE BEACH POLLUTION WERE MANY: COMBINED SEWER OVERFLOWS, SEWAGE BYPASSES DUE TO TREATMENT PLANT MALFUNCTIONS, AND STORM RUNOFF; NON-POINT SOURCES; MARINE TRANSFER OF SOLID WASTE; BEACHGOERS' LITTER; RECREATIONAL BOAT USERS' LITTER AND SEWAGE; CRUISE, COMMERCIAL AND MILITARY VESSELS' GARBAGE DISPOSAL; LANDBASED LITTERING AND DUMPING; AND THE POSSIBLE ILLICIT DUMPING OF MEDICAL WASTES.

THE STATE TOOK IMMEDIATE AND POSITIVE STEPS TO ADDRESS THE PROBLEM.

COMMISSIONER JORLING IMMEDIATELY ORDERED THE INVESTIGATION OF THE BEACH WASHUP INCIDENTS. DEC INVESTIGATORS WERE SUCCESSFUL IN REVEALING SEVERAL POTENTIAL SOURCES FOR THE WASHUPS AND ARE CONTINUING TO WORK WITH NEW YORK CITY INVESTIGATORS AND OTHER AUTHORITIES TO DETERMINE THE SOURCE(S) OF THE DEBRIS.

GOVERNOR MARIO M. CUOMO PROPOSED A SERIES OF NEW INITIATIVES TO PROTECT PUBLIC HEALTH AND SAFETY FROM INFECTIOUS MEDICAL WASTE, OTHERWISE KNOWN AS "RED BAG" WASTE, INCLUDING:

- INCREASED PENALTIES FOR PERSONS WHO ILLEGALLY DISPOSE OF INFECTIOUS MATERIALS AND THE ELIMINATION OF THE 100 KG EXEMPTION IN THE CURRENT LAW.

- ADOPTION OF EMERGENCY REGULATIONS TIGHTENING CONTROLS ON HANDLING, TRANSPORTATION AND DISPOSAL OF ALL "RED BAG" WASTE.

- AUTHORIZATION BY THE STATE LEGISLATURE TO SPEND UP TO $2 MILLION IN EMERGENCY FUNDS TO ENHANCE THE STATE'S ENFORCEMENT ACTIVITIES RELATING TO "RED BAG" WASTE.

THE GOVERNOR HAS RECENTLY ANNOUNCED THE FILING OF EMERGENCY REGULATIONS THAT TIGHTEN CONTROL OVER THE DISPOSAL OF INFECTIOUS WASTE AND IMPOSE A STRICT MANIFEST SYSTEM TO TRACK "RED BAG" WASTE FROM SOURCE TO FINAL DISPOSAL.

I WILL REVIEW EACH OF THE POSSIBLE CAUSES OF BEACH CLOSINGS, THEIR SPECIFIC SOURCES WHERE THESE ARE KNOWN, AND THE STEPS NEW YORK STATE IS TAKING TO MANAGE THESE PROBLEMS.

COMBINED STORMWATER SEWER OVERFLOWS (CSOs)

AS IS TRUE OF MANY OTHER URBAN AREAS, NEW YORK CITY IS SERVED BY A STORMWATER SYSTEM THAT SHARES THE SAME CONDUITS AS THE SEWER SYSTEM. AS A CONSEQUENCE, ANY RAINSTORM ABOVE 0.04 INCHES PER HOUR OVERWHELMS THE CAPACITY OF THE CITY'S SEWAGE TREATMENT PLANTS AND THE STORMWATER-RAW SEWAGE MIXTURE IS DIVERTED INTO THE COASTAL WATERS FROM 540 OVERFLOW POINTS.

THIS HAS A MAJOR ADVERSE IMPACT ON THE METROPOLITAN AREA'S COASTAL WATERS. THERE IS A BLANKET NEW YORK CITY DEPARTMENT OF HEALTH ADVISORY TO REFRAIN FROM SWIMMING AT ANY BEACH FOR 48 HOURS AFTER A RAIN. IN ADDITION TO THE HIGH COLIFORM COUNTS, THE RESULT OF THE CSO OVERFLOW IS A DIVERSION OF ALL THE FLOATABLE MATERIAL THAT IS FLUSHED FROM HOUSEHOLDS AND STREETS OUT TO COASTAL WATERS WHERE SOME OF IT INEVITABLY WINDS UP ON BEACHES AND OTHER SHORELINES. THUS WE HAVE AT LEAST A PARTIAL EXPLANATION OF THE APPEARANCE OF ITEMS SUCH AS SYRINGES, SOME OF WHICH ARE DISCARDED DOWN STORM SEWER DRAINS.

THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION IS USING ITS STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) PERMITS AS THE TOOL TO TACKLE THIS MASSIVE PROBLEM. WE REQUIRED

NEW YORK CITY TO UNDERTAKE AN ABATEMENT PROGRAM. THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION HAS COMPLETED THE IDENTIFICATION PHASE OF THE PROJECT AND IS NOW IN THE MIDST OF DETAILED FACILITY PLANNING, THE STEP PRIOR TO IMPLEMENTATION. THE ABATEMENT PROGRAM IS EXPECTED TO BE COMPLETED IN TEN YEARS AND HAS BEEN BUDGETED FOR $1.2 BILLION IN NEW YORK CITY'S CAPITAL BUDGET.

SEWAGE TREATMENT PLANT MALFUNCTIONS

IN ADDITION TO RAINFALL INDUCED BYPASSES, THERE IS A CONSISTENT PROBLEM WITH BYPASSES DUE TO EITHER MECHANICAL FAILURES OR INADEQUATE MAINTENANCE OF SEWAGE TREATMENT PLANTS. AT LEAST THREE OF THE SERIES OF CLOSURES THIS SUMMER CAN BE EXPLAINED BY A MALFUNCTION OF SEWAGE TREATMENT PLANTS. THE HUNTINGTON BAY BEACHES WERE CLOSED AS A RESULT OF A SLUDGE DISCHARGE INTO THE BAY WATERS, AND MANY OF THE MAJOR NEW YORK CITY BEACHES, INCLUDING CONEY ISLAND, WERE CLOSED WHEN A POWER OUTAGE CAUSED A SEWAGE BYPASS AT THE SEWAGE TREATMENT PLANT ON THE NORTH SHORE OF STATEN ISLAND. WESTCHESTER AND LONG ISLAND SOUND BEACHES WERE CLOSED IN RESPONSE TO MALFUNCTIONS IN PORT CHESTER, NEW YORK CITY, AND GREENWICH, CONNECTICUT. THESE MALFUNCTIONS ARE RESPONSIBLE FOR SEWAGE-RELATED CLOSURES AND ADD TO THE LOAD OF FLOATABLE DEBRIS, INCLUDING SYRINGES. PROVISIONS FOR IMPROVED SEWAGE TREATMENT PLANT OPERATION AND MAINTENANCE TO DEAL WITH THIS SOURCE OF BEACH POLLUTION ARE WRITTEN INTO THE SPDES PERMITS FOR NEW YORK CITY.

STORM RUNOFF/NON-POINT SOURCES

RUNOFF OF STORMWATER FROM PAVED AND NON-POROUS AREAS CONTRIBUTES STREET LITTER, ANIMAL EXCRETIONS, AND ERODED SOIL TO COASTAL WATERS. NEW YORK STATE, MEETING THE GOALS OF THE CLEAN WATER ACT OF 1987, HAS DRAFTED A DETAILED PLAN TO CONTROL THESE NON-POINT SOURCES OF POLLUTION TO ALL OUR SURFACE WATERS, INCLUDING COASTAL WATERS. NON-POINT POLLUTION SOURCES AFFECTING OUR BEACHES AND WATERS ARE MANY, THEIR NATURE IS DIVERSE, AND THEIR RESULTS ARE CUMULATIVELY LARGE AND DIFFICULT TO CONTROL.

THE APPROPRIATION OF ADEQUATE LEVELS OF FUNDING IS ABSOLUTELY NECESSARY TO IMPLEMENT AN EFFECTIVE NON-POINT SOURCE POLLUTION CONTROL PROGRAM. OF THE $400 MILLION DOLLARS CONGRESS HAS AUTHORIZED NATIONWIDE, $170 MILLION SHOULD HAVE BEEN APPROPRIATED FOR FISCAL YEARS 1988 AND 1989. THE TOTAL APPROPRIATION HAS BEEN ZERO. WITHOUT A COMMITMENT OF SIGNIFICANT RESOURCES TO DEAL WITH THESE MOST INTRACTABLE WATER POLLUTION SOURCES, WE CAN EXPECT A CONTINUATION OF THE BEACH POLLUTION PROBLEM.

SOLID WASTE HANDLING/MARINE TRANSFER STATIONS

EVEN AMONG THE MORE INFORMED THERE IS A WIDELY HELD MISCONCEPTION THAT NEW YORK CITY DUMPS ITS GARBAGE AT SEA. THE BARGES OF TRASH OBSERVED MOVING AROUND THE HARBOR ACTUALLY GO TO THE FRESH KILLS LANDFILL ON STATEN ISLAND. WE HAVE IDENTIFIED THE LOADING AND UNLOADING OPERATIONS AS THE WEAKNESS IN WHAT OTHERWISE

IS A GREATLY IMPROVED SOLID WASTE HANDLING OPERATION AT FRESHKILLS, WHICH MUST HANDLE UP TO 28,000 TONS OF GARBAGE PER DAY.

DURING THE LOADING OF BARGES FROM TRUCKS, THE NATURALLY OCCURRING UPDRAFT CAUSES LIGHT WEIGHT MATERIALS TO SURGE INTO THE WATERS. SOME MITIGATION STEPS HAVE ALREADY TAKEN PLACE THROUGH THE ENFORCEMENT OF PERMIT CONDITIONS ISSUED BY NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, AND AS A RESULT OF SETTLEMENT OF THE SUIT BY THE TOWN OF WOODBRIDGE, NEW JERSEY. THE REQUIRED UPGRADINGS INCLUDE USE OF SPECIAL BOOMS TO CONTAIN TRASH, MORE SKIMMER BOATS TO PICK UP TRASH WHICH MAY ESCAPE DURING TRANSFER, AND OTHER OPERATIONAL CHANGES DESIGNED TO MINIMIZE THE AMOUNT OF DEBRIS FALLING INTO THE WATER. THE STATE IS COMMITTED TO FURTHER UPGRADINGS TO ELIMINATE TRASH TRANSFER AT FRESH KILLS AS A SOURCE OF BEACH POLLUTION.

LARGE VESSEL TRASH DISPOSAL

OTHER SOURCES OF FLOATABLES WHICH CONTRIBUTE TO BEACH WASHUPS ARE CRUISE SHIPS, FREIGHTERS, AND MILITARY VESSELS WHICH, UNDER CURRENT LAW, MAY DISPOSE OF THEIR SOLID WASTES IN THE SEA. THE IDENTIFICATION OF THESE VESSELS AS A POLLUTION SOURCE WAS CONFIRMED RECENTLY BY THE WASHUP ONTO NORTH CAROLINA BEACHES OF MEDICAL DEBRIS DISPOSED OF BY A NAVAL VESSEL.

NEW YORK STATE JOINED WITH OTHER COASTAL STATES TO SUCCESSFULLY PROMOTE RATIFICATION OF MARPOL ANNEX V, THE INTERNATIONAL TREATY WHICH BANS OCEAN DISPOSAL OF ALL PLASTICS AND LIMITS FOOD WASTE GARBAGE AND DUNNAGE (PACKING MATERIAL) DISPOSAL TO BEYOND 12 AND 25 MILES RESPECTIVELY, AFTER DECEMBER 1988.

NEW YORK STATE RECOMMENDS THAT IN ORDER TO PROPERLY IMPLEMENT MARPOL V THERE BE ENACTED AT THE FEDERAL LEVEL A SYSTEM OF INCENTIVES AND LOW COST LOANS FOR CONSTRUCTION OF ON-BOARD AND DOCKSIDE INCINERATORS. FURTHERMORE, THE COAST GUARD SHOULD BE GIVEN THE RESOURCES TO ENFORCE THE PROVISIONS OF THE TREATY.

BEACHGOERS' AND RECREATIONAL BOAT USERS' LITTER

ONE ADDITIONAL SOURCE OF BEACH POLLUTION IS THE LITTER OF RECREATIONAL BOATERS AND THE CASUAL DISPOSAL OF TRASH BY BEACHGOERS. THESE SOURCES CONTRIBUTE TO THE SLICKS OF TRASH WHICH WASH UP ON THE BEACHES WHEN WINDS BLOW ASHORE. A PUBLIC EDUCATION PROGRAM WE HAVE INSTITUTED, CONSISTING OF POSTERS, BROCHURES, SPEAKING BEFORE CIVIC GROUPS, HIGH SCHOOL PROGRAMS, ORGANIZED BEACH CLEANUP DAYS, PRESS ADVISORIES, ETC., REFLECTS THE COMMITMENT OF THE STATE TO TRY TO CORRECT THIS PROBLEM ON ALL LEVELS.

ILLEGAL DUMPING OF MEDICAL WASTE

AS A RESULT OF THE WASHUPS OF MEDICAL DEBRIS, WE HAVE REDEPLOYED OUR ENVIRONMENTAL LAW ENFORCEMENT STAFF TO CONCENTRATE ON THIS ISSUE.

TO DATE, WE HAVE NO EVIDENCE OF ILLEGAL DUMPING OF MEDICAL WASTES INTO COASTAL WATERS. EVIDENCE HAS BEEN OBTAINED, HOWEVER, REGARDING IMPROPER WASTE DISPOSAL ON LAND FOR NEARLY ALL OF THESE CATEGORIES.

THE BEST WAY TO STOP DELIBERATE ILLEGAL DISPOSAL IS THROUGH SWIFT AND SURE ENFORCEMENT, TO HOLD THE DUMPER RESPONSIBLE.

THE NEW YORK STATE DEPARTMENTS OF HEALTH AND ENVIRONMENTAL CONSERVATION RECENTLY PROMULGATED EMERGENCY REGULATIONS, BASED ON STATE LEGISLATION PASSED IN 1987. ISSUED TOGETHER WITH SIMILAR REGULATIONS OF THE STATE OF NEW JERSEY, THE REGULATIONS ESTABLISH A CRADLE-TO-GRAVE TRACKING SYSTEM, INCLUDING MANIFESTING OF THE INFECTIOUS WASTE COMPONENT OF MEDICAL WASTE, SIMILAR TO THE MANIFESTING SYSTEM FOR HAZARDOUS WASTE.

ADDITIONAL HIGHLIGHTS OF THE EMERGENCY REGULATIONS ARE AS FOLLOWS:

1. TRANSPORT VEHICLES MUST BE OWNED BY THE PERMITTED TRANSPORTER, NOT RENTED OR LEASED, AND MARKED WITH THE WORD "INFECTIOUS" IN LARGE LETTERS.

2. THERE ARE STORAGE AND SECONDARY CONTAINMENT REQUIREMENTS, INCLUDING PLACING OF INFECTIOUS WASTE INTO RED BAGS MARKED WITH THE NAME AND ADDRESS OF THE GENERATOR.

3. TWO FLOATABLE IDENTIFICATION TAGS NAMING THE FACILITY GENERATING THE WASTE MUST BE INCLUDED IN EACH CONTAINER.

4. DECONTAMINATION PROCEDURES ESTABLISHED BY THE DEPARTMENT OF HEALTH ARE REQUIRED FOR REUSABLE WASTE CONTAINERS.

5. PROTECTIVE CLOTHING WILL BE REQUIRED FOR THOSE HANDLING THE WASTE.

6. INFECTIOUS WASTE MUST BE DELIVERED TO AN INCINERATION FACILITY FOR DISPOSAL.

7. ANY TRANSPORTER OF INFECTIOUS WASTE MUST SUPPLY EVIDENCE OF INSURANCE COVERAGE OF $1 MILLION, AT A MINIMUM.

WE BELIEVE THESE REGULATIONS, TOGETHER WITH REVISIONS TO BE MADE AS OUR EXPERIENCE WITH THEM GROWS, WILL ADEQUATELY CONTROL THE STORAGE AND HANDLING OF INFECTIOUS WASTE, THE TRANSPORTATION OF INFECTIOUS WASTE, AND THE FINAL DISPOSAL OF INFECTIOUS WASTE.

IN ADDITION, THERE IS LEGISLATION AWAITING SIGNATURE BY THE GOVERNOR WHICH WILL SIGNIFICANTLY INCREASE BOTH CIVIL AND CRIMINAL PENALTIES FOR ILLEGAL HANDLING OF INFECTIOUS WASTE. IMPROPER HANDLING OF INFECTIOUS WASTE THAT RESULTS IN A RELEASE TO THE ENVIRONMENT WILL BE PUNISHABLE AS A FELONY WITH FINES OF UP TO $25,000 FOR A FIRST OFFENSE AND UP TO $50,000 FOR A SUBSEQUENT OFFENSE. THAT BILL ALSO REMOVES THE 100 KILOGRAM EXEMPTION FROM THE TRANSPORTER REQUIREMENTS. THIS MEANS THAT EVEN SMALL GENERATORS OF MEDICAL WASTE, SUCH AS PHYSICIANS' OFFICES AND DENTISTS, WILL BE BROUGHT WITHIN THE MANIFESTING SYSTEM.

SUMMARIZING ACTIONS NEW YORK STATE HAS TAKEN TO COMBAT THESE PRESSING PROBLEMS:

THE DEC, IN 1982, CAUSED THE INITIATION OF NEW YORK CITY'S COMBINED SEWER ABATEMENT PROGRAM AND CONTINUES TO OVERSEE ITS PROGRESS.

THE DEC IS DEVELOPING A STATEWIDE MANAGEMENT PROGRAM TO ADDRESS NON-POINT SOURCES OF POLLUTION.

THE DEC OVERSEES AND CONTINUES TO INSURE THE UPGRADING OF THE SOLID WASTE OPERATIONS IN THE STATE INCLUDING MARINE TRANSFER OPERATIONS.

THE DEC, TOGETHER WITH CITY, FEDERAL AND OTHER STATE AGENCIES, HAS UNDERTAKEN AN EXTENSIVE AND MULTI-FACETED CAMPAIGN TO CONTROL BEACH AND BOAT USERS' LITTER.

THE DEC HAS REDEPLOYED ITS ENVIRONMENTAL LAW ENFORCEMENT STAFF TO INVESTIGATE THE SOURCES OF BEACH DEBRIS AND BRING APPROPRIATE ENFORCEMENT ACTIONS AGAINST ILLEGAL MEDICAL WASTE DUMPING.

THE DEC, TOGETHER WITH NYS DEPARTMENT OF HEALTH, HAS REVISED AND RELEASED EMERGENCY INFECTIOUS WASTE REGULATIONS. NEW JERSEY HAS RELEASED SIMILAR REGULATIONS AT THE SAME TIME.

THE DEPARTMENT OF HEALTH HAS ISSUED A REPORT RECOMMENDING REGIONAL SOLUTIONS TO THE MEDICAL WASTE PROBLEM, INCLUDING INCINERATION OF MEDICAL WASTE IN HIGH TEMPERATURE WASTE-TO-ENERGY FACILITIES AS THE PREFERRED SOLUTION.

IN ADDITION, ON AUGUST 31, COMMISSIONER THOMAS C. JORLING ANNOUNCED THE ISSUANCE OF FINAL REGULATIONS ON HANDLING AND DISPOSING OF ALL SOLID WASTE, INCLUDING STRINGENT NEW PROVISIONS ON INCINERATION OF BOTH ORDINARY TRASH AND MEDICAL WASTE.

ON BEHALF OF NEW YORK STATE, THE DEC MAKES THE FOLLOWING RECOMMENDATIONS REGARDING FEDERAL ACTIONS AND POSSIBLE LEGISLATION:

1. THE CONSTRUCTION GRANTS PROGRAM SHOULD BE FUNDED AT THE LEVELS THAT CONGRESS AUTHORIZED FOR FY '89 - THE FULL $2.4 BILLION INSTEAD OF $1.95 BILLION NATIONWIDE. THESE FUNDS WOULD GO A LONG WAY TOWARD UPGRADING SEWAGE TREATMENT PLANTS TO PROPERLY HANDLE THE INCREASED LOADS DURING RAINFALLS AND MALFUNCTIONS WHICH MAY BE CONTRIBUTING TO THE BEACH POLLUTION PROBLEM.

2. THE NON-POINT SOURCE PROGRAM UNDER THE CLEAN WATER ACT OF 1987 MUST BE FUNDED FOR A TOTAL OF $400 MILLION AS OPPOSED TO THE ZERO FUNDING AUTHORIZED TO DATE.

3. THE COAST GUARD MUST BE GIVEN THE RESOURCES TO ENFORCE MARPOL ANNEX V; A LOW COST LOAN OR INCENTIVE PROGRAM SHOULD BE DEVELOPED TO HELP SHIPS AND PORTS MEET THE WASTE HANDLING PROVISIONS OF MARPOL V. THERE MUST BE A RESTORATION OF THE COAST GUARD'S VESSEL TRAFFIC SERVICE (VIDEO AND RADAR SURVEILLANCE) WHICH MONITORS VESSEL MOVEMENT WITHIN THE UPPER AND LOWER NEW YORK HARBOR, EAST RIVER AND THE KILLS.

4. A NATIONAL SYSTEM OF INFECTIOUS WASTE REGULATION SHOULD BE ENACTED, SIMILAR TO THAT PROMULGATED BY NEW YORK AND NEW JERSEY.

I THANK YOU FOR ALLOWING ME TO MAKE MY PRESENTATION AND I WILL BE HAPPY TO ANSWER ANY QUESTIONS YOU MAY HAVE.

Appendix II: High Bacteria Count or Sewage-Related Beach Closures

New York City

Coney Island, Brighton Beach and Manhattan Beach all on Brooklyn were closed as a precaution when the Port Richmond sewage treatment plant on Staten Island released raw sewage as a result of a power failure. The Staten Island Beaches were already closed as a result of medical waste washups.

Several Staten Island teaches were closed due to high coliform levels for reasons not attributed to a particular sewage plant malfunction or to a CSO-rain event.

Westchester

All Westchester beaches on Long Island Sound were closed late Friday, July 29th though the weekend is a precaution in anticipation of a high bacterial count when a large slick that was suspected to be a sewage discharge was observed near shore. While most of the beaches were reopened, some remained closed due to high bacterial counts. A number of Mamaroneck beaches were closed several times as a precaution after rainfalls.

Two beaches in Rye were closed in response to a malfunction of the Port Chester sewage treatment plant chlorinator and the subsequent discharge of a Greenwich, Connecticut Sewage, Treatment Plant.

Nassau

No Nassau beaches were closed this summer.

Pryibil Park, Glen Cove as well as Laurel Hill, Cold Spring Harbor had suspect washups which turned out to be natural debris. On the south shore at Atlantique on Long Beach, there were grease chunks debris that may have been associated with the Staten Island bypass, but the water column bacterial levels were not exceeded.

Suffolk

Beaches were closed in Huntington Bay as a precaution when a sewage treatment plant malfunction caused the discharge of treated sludge.

Additionally, 15 miles of beach in the Quogue area on the south shore in the town of Southampton, were closed as a result of high bacterial levels. The high levels were not the result of sewage treatment plant malfunction and the source of the bacteria is unknown.

Appendix I: Beach Closures due to Medical Waste Washups

Nassau County

Lido Beach
Jones Beach
Long Beach
Point Lookout Park
Malibu Beach
Ocean Club

Suffolk County

Atlantique Beach
Smith Point County Park
Robert Moses State Park
Kismet
Fair Harbor
Dune Wood
Barrett Beach
Ocean Beach
Easthampton Beach
Cedar Beach
Silge Beach
Overlook Beach

New York City

South Beach, Staten Island
Midland Beach, Staten Island
Great Kills, Staten Island
Wolfe's Pond, Staten Island
Miller Field, Staten Island
Fort Wadsworth, Staten Island
Coney Island, Brooklyn
Brighton Beach, Brooklyn
Manhattan Beach, Brooklyn
Sea Gate, Brooklyn
Breezy Point, Queens
Fort Tilden, Queens
Riis Park, Queens
Rockaway Beach, Queens

Westchester County

Glen Island Park
Hudson Park (E&W)

HEARING ON BEACH CLOSURES

BY

HOUSE SUBCOMMITTEE ON FISHERIES AND WILDLIFE
CONSERVATION AND THE ENVIRONMENT

TESTIMONY OF:

BRENDAN SEXTON, COMMISSIONER

NEW YORK CITY, DEPARTMENT OF SANITATION

SEPTEMBER 6, 1988
WANTAGH, NEW YORK

Thank you for the opportunity to testify today. The beach closures this past summer have highlighted the need to have the Federal government focus on the issue of medical and infectious waste disposal. As Commissioner of the New York City Department of Sanitation I am extremely appreciative of the interest Congress is taking in this issue. The investigation of the incidents of medical waste washups this summer, especially given that they included almost exclusively syringes and blood vials and not other types of medical debris, has led me and my staff to believe that illegal disposal was the main problem. New York City has been grappling with this problem for a number of years. In fact, back in 1985, New York City, enacted the first measures to regulate the disposal of potentially infectious waste (Local Law 57).

Briefly, that law required licensed health care providers to separate potentially infectious waste from medical waste before it is sent out for disposal. Potentially infectious waste includes pathological waste, laboratory waste, serums and vaccines, needles and other sharp items which can cause puncture, and surgical waste emanating from a patient with communicable disease. Non-infectious medical waste includes office paper, cafeteria waste, and discarded medical material that presents no danger of infection to persons handling it.

The non-infectious medical waste from hospitals and nursing homes is collected by the Department of Sanitation and taken to a Department incinerator for disposal.

This is designed to prevent the possibility of infectious waste which we find all too often, unfortunately, mixed in with medical waste, from entering the bulk of the waste disposal system. It enables us to randomly inspect waste arriving at the incinerator for infectious waste and if such material is found to locate and penalize the persons responsible.

Potentially infectious waste is handled by health care generators in two different ways: A large fraction of the material is incinerated on the premises in special pathological waste incinerators or rendered non-infectious through steam auto-claving. Materials not disposed of on-site are consigned to state licensed private carters who take waste to infectious waste disposal facilities in New York State or elsewhere. The Department of Sanitation and the New York State Department of Environmental Conservation both randomly inspect the loads of waste placed out for pick-up by the carters and the loads carters carry.

Clinical laboratories and physician's generate comparable wastes. However, these facilities are serviced only by private carters. The infectious portion of the waste they generate is barred, by law, from entering the Department waste disposal system. The non-infectious portion of their waste is only permitted at the Department's incinerators.

But the Department routinely monitors what is discarded from these facilities. As a result, on only a few occasions, when Sanitation workers suspected improper disposal of infectious waste material at our landfills, have investigations sustained the charges of violation of local law.

The Department has a specialized unit of thirteen investigators and six attorneys to respond to complaints, monitor compliance with the law; and, also to litigate cases of violations before the City's adjudicatory body, the Enviromental Control Board. Since enactment of the law, approximately 100 cases a year are prosecuted by the Department of Sanitation.

When medical debris and other waste began washing up on the shores of the region, the Enviromental Enforcement Unit intensified its efforts to track down the source of this material. The Mayor also deployed staff of the City's Departments of Parks, Police, Health and Environmental Protection to work on cleaning up the beaches. State and federal officials, have also devoted significant resources to this effort. After a careful review of material which has washed up on regional beaches we have concluded that these materials do not have a single source. For example, traceable items have been discovered including some pill bottles. Investigation proved that one pill bottle was left on a beach, one was thrown out 18 months ago, another fell out of a boat, and a fourth was accidently dropped from a pier. This illustrates the likelihood of many sources of the waste being found. However, much of the information we have gained leads us to believe that most of the waste has been illegally disposed of into or near the water's edge.

We are, of course, continuing our investigations, and at the same time preparing amendments to local law 57 to expand its scope by giving the Department of Sanitation authority to regulate the private carters and the safe disposal by private individuals, such as diabetics who must dispose of infectious wastes. Our proposal would make it explicitly illegal for any health care provider to arrange for the transportation of infectious waste by an unlicensed hauler.

Existing penalties under Local Law 57 of $2,500-$10,000 for a first offense, $5,000-$10,000 for a second offense, and $10,000 for each additional offense would be stiffened to include criminal penalties of $2,500-$25,000 and/or imprisonment of up to one year or both.

However, penalties imposed on individuals, such as diabetics, would not include criminal sanctions. In addition, to the penalties mentioned above, private haulers would have their licenses suspended for 30 days for any violation of the law and revoked if two violations are committed within 18 months.

However, I believe that more dramatic steps are required to effectively deal with this problem. That is because I believe the real crux of the problem is two-fold.

- First, there is insufficient data and knowledge about the hazards posed by infectious waste material. Without such scientifically based knowledge, designing appropriate remedial and prophylactic programs is difficult. Therefore, it is important that the federal government take the lead in developing and disseminating the necessary information. And, because different standards for handling and disposal exist in different areas of the country, the federal government should set minimum standards for the handling, transport and disposal of infectious waste based on sound technical data.

Without minimum standards material will flow from areas of appropriate but expensive disposal to areas where cheap disposal is possible. In addition , fear and uncertainty will remain unabated no matter what handling and disposal procedures are locally adopted.

- Second, the cost of proper handling and disposal is very high, especially when disposal must be performed at a distant facility. For example, our recent estimates indicate that it costs generators $1.00 per pound to transport and dispose of infectious material. When costs are so high the incentive is great to illegally dump the material.

Therefore, I was very pleased to see that the Senate passed a bill which calls for EPA to put in place a uniform manifest system tracking waste from its generation source, through its transportation to its final disposal destination.

As you may know, New York and New Jersey have recently promulgated emergency regulations to require a similar manifest system for waste generated within the two states. However, transporters of small amounts of infectious waste (100 kilograms or less) are exempted from New York State's regulations. I believe this is a mistake. If, in fact, we need to be concerned about proper handling and disposal of these wastes, doctors, clinics, laboratories and others who generate small amounts, should not be permitted to escape regulation by contracting with unpermitted transporters. All infectious waste needs to be properly handled and disposed, and therefore regulated.

As a long-term solution, the federal government should seriously consider methods of encouraging or requiring hospitals and health care facilities of a reasonable size to install on-premises, state-of-the-art incinerators, and to provide an exemption for these facilities from the air pollution offset requirements for new incinerators. These facilities should be required to take infectious waste from nearby generators too small to install their own incinerators. A scheme such as this could prove economically beneficial for both the hospitals with the incinerators and the neighboring generators. The hospitals with the incinerators would receive payment for disposal of waste taken from neighboring health care providers, and the neighboring generators in turn, would have to pay less than if they had to transport the waste to a distant location.

The savings to the public in general, in terms of protection from water-borne debris, potential disease, and fear would be enormous.

The total volume of infectious waste generated each week in New York State and New York City is miniscule when considering the air pollution offsets that would be required. Therefore, the effects on air-quality should be de-minimus. New York State currently generates 1.8 million pounds of infectious waste per week. Included in that amount is the 852,000 pounds generated in New York City. In terms of New York City's waste, currently, 275,000 pounds are disposed on the premises where it is generated, 225,000 pounds are sent out-of-state, and 380,000 pounds are sent to other facilities within the State.

I hope you will seriously consider these two proposals.

I look forward to working with members of Congress and the federal administration to find solutions to the problems of disposal of infectious waste.

Thank you for this opportunity to testify.

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TESTIMONY OF PATRICK G. HALPIN
SUFFOLK COUNTY EXECUTIVE
TO SUBCOMMITTEE ON FISHERIES AND WILDLIFE CONSERVATION
AND THE ENVIRONMENT
COMMITTEE ON MERCHANT MARINE AND FISHERIES
U.S. HOUSE OF REPRESENTATIVES
BOARDWALK RESTAURANT AT JONES BEACH
WANTAGH, N.Y.
SEPT. 6, 1988

GOOD MORNING, CHAIRMAN STUDDS AND MEMBERS OF THE SUBCOMMITTEE.

THANK YOU FOR GIVING ME THE OPPORTUNITY OF SPEAKING WITH YOU TODAY ABOUT WHAT IS RAPIDLY BECOMING KNOWN AS THE INFAMOUS "SUMMER OF '88."

ONE HUNDRED YEARS AFTER THE FACT, THE "BLIZZARD OF "88"---THAT'S 1888---IS STILL REMEMBERED WITH DREAD BY NEW YORKERS. UNFORTUNATELY, THE "SUMMER OF 1988" MAY RECEIVE SIMILAR RECOGNITION IN THE HISTORY BOOKS.

BUT I HOPE THAT BY OUR ACTIONS HERE TODAY AND THE ACTIONS OF RESPONSIBLE LEGISLATORS AT THE FEDERAL, STATE AND LOCAL LEVEL, THE "SUMMER OF 1988" WILL BE REMEMBERED MUCH THE SAME AS THE "BLIZZARD OF '88"---AS A ONCE-IN-A-LIFETIME HAPPENING.

I WON'T TAKE UP YOUR TIME RECOUNTING THE BY NOW ALL TOO FAMILIAR INCIDENTS OF WASHUPS ON OUR BEACHES OF MEDICAL AND OTHER

WASTES EXCEPT TO TELL YOU THAT I WAS PERSONALLY REPULSED BY THE ITEMS I INSPECTED ON JULY 10, 1988 WHEN SUFFOLK COUNTY WAS FORCED TO CLOSE ITS LARGEST AND MOST POPULAR OCEAN BEACH, SMITH POINT BEACH ON FIRE ISLAND.

BLOOD-ENCRUSTED SYRINGES, PLASTIC MEDICAL TUBING, BANDAGES AND EVEN VIALS OF BLOOD SOILED OUR BEACH.

I SAW FIRST-HAND THE ANGER AND FRUSTRATION OF SUFFOLK RESIDENTS, THEIR FACES CONTORTED IN RAGE, AS THEY WERE DENIED THE OPPORTUNITY TO SWIM AT THE BEACH AND AS THEY FACED THE CONSEQUENCES OF OUR SOMETIMES HEEDLESS "USE IT AND PITCH IT" SOCIETY.

ALL OF US AS PUBLIC OFFICIALS MUST RECOGNIZE WHAT THOSE EXPERTS IN THE FIELD TELL US AND THAT IS THAT THE FEAR IS MUCH GREATER THAN THE REALITY.

MEDICAL WASTE ON OUR SHORES IS UGLY AND REPULSIVE, BUT IT IS MORE OF A THREAT TO PUBLIC SAFETY THAN IT IS TO PUBLIC HEALTH.

LET ME SPEAK PLAINLY. THERE IS ONLY ONE MAJOR DIFFERENCE BETWEEN THE SEVERE WASHUPS OF 1976 THAT AFFLICTED OUR AREA AND THOSE OF THE SUMMER OF '88 - THE FEAR OF CONTRACTING AIDS.

FEAR OF AIDS HAS REACHED ALMOST HYSTERICAL PROPORTIONS IN MANY AREAS. AS PUBLIC OFFICIALS, WE MUST USE ALL OF OUR EFFORTS TO EDUCATE THE PUBLIC ABOUT HOW AIDS IS CONTRACTED.

MAYBE THOSE IN THIS ROOM THINK THE MESSAGE HAS BEEN REPEATED A THOUSAND TIMES, BUT CLEARLY THE HYSTERIA SURROUNDING AIDS TELLS US THAT THE MESSAGE IS NOT GETTING THROUGH TO MANY PEOPLE.

WE MUST ACT PRUDENTLY AND RESPONSIBLY TO INFORM THE PUBLIC THAT AIDS IS NOT CONTRACTED FROM BEACHSIDE SYRINGES.

WE MUST QUENCH THIS INFERNO WITH EDUCATION, NOT INFLAME IT WITH IRRESPONSIBLE RHETORIC.

A COUPLE OF GENERAL POINTS ON COASTAL POLLUTION:

IT IS CLEAR THAT THE SOURCES OF THE PROBLEM WERE REGIONAL. WHAT'S DUMPED WITHIN A 100-MILE RADIUS CAN TURN UP ON ANYONE'S BEACHES. SO SOLUTIONS MUST BE REGIONAL.

AND ALTHOUGH I SPEAK TO YOU AS THE COUNTY EXECUTIVE OF SUFFOLK COUNTY NEW YORK, I AM WELL AWARE THAT SIMILAR PROBLEMS ARE CONFRONTING MY COUNTERPARTS IN COASTAL COMMUNITIES ACROSS THE NATION FROM BOSTON TO SAN DIEGO AND FROM MIAMI TO SEATTLE.

BUT I'D LIKE TO BE A LITTLE PAROCHIAL FOR A MOMENT. ALTHOUGH SUFFOLK COUNTY IS A WONDERFUL PLACE IN WHICH TO LIVE OR DO BUSINESS IT IS PROBABLY BEST KNOWN AROUND THE COUNTRY, INDEED THE WORLD, FOR THE HAMPTONS AND FIRE ISLAND AND THEIR PRISTINE BEACHES.

THIS AD PREPARED BY OUR DEPARTMENT OF ECONOMIC DEVELOPMENT THAT I HAVE BROUGHT ALONG SAYS IT ALL: "LIQUID ASSETS" THAT'S WHAT OUR BEACHES AND OUR WATERS ARE TO SUFFOLK COUNTY.

NOBODY KNOWS EXACTLY THE SCOPE OF THE ECONOMIC CONSEQUENCES OF THE "SUMMER OF '88." BUT WE DO KNOW THAT THEY HAVE BEEN ENORMOUS.

BEACH ATTENDANCE AND RELATED ACTIVITIES PLUMMETED. CONSUMPTION OF FISH AND SHELLFISH DROPPED OFF PRECIPITOUSLY AS A PANICKED PUBLIC REACTED TO THE GRISLY EVENTS UNFOLDING BEFORE THEM ON T.V. AND RADIO AND IN THE PAGES OF THEIR NEWSPAPERS AND MAGAZINES.

THE $6-BILLION-A-YEAR TOURISM ECONOMY ON LONG ISLAND IS STILL REELING. IT HAS BEEN ESTIMATED THAT THE LOSS OF VISITORS TO LONG ISLAND ALONE HAS COST THE REGIONAL ECONOMY A MINIMUM OF $50 MILLION.

IN ADDITION TO THE DOLLAR LOSS, LONG ISLAND ALSO SUFFERED PAINFUL PERSONAL LOSSES AS JOBS VANISHED AND INVESTMENTS OF A LIFETIME IN FISHING BOATS AND EQUIPMENT WERE WIPED OUT. THOSE WHO GO DOWN TO THE SEA IN SUFFOLK ARE HURTING---AND THEY ARE HURTING BADLY.

ON BEHALF OF THE PEOPLE OF SUFFOLK COUNTY, I IMPLORE YOU, WE NEED HELP AND WE NEED IT FAST.

AND BY THE RAREST OF COINCIDENCES, I HAPPEN TO HAVE A FEW SUGGESTIONS FOR YOU THAT I THINK MAY CONTRIBUTE TO OUR COMMUNAL GOAL OF AVOIDING A REPETITION OF THE "SUMMER OF '88."

* ON THE MOST BASIC LEVEL, WE MUST DRAMATICALLY REORDER OUR SOCIETY'S "USE IT AND PITCH IT" MENTALITY. QUITE SIMPLY, WE MUST THROW AWAY LESS AND RECYCLE MORE.

SUFFOLK COUNTY HAS ALREADY BEGUN THIS TASK BY BANNING THE USE OF STYROFOAM AND POLYVINYLCHLORIDE FOOD CONTAINERS AND THE USE OF PLASTIC BAGS IN SUPERMARKETS.

AND LAST WEEK THE LEGISLATURE APPROVED LEGISLATION CALLING FOR DEPOSITS ON AUTOMOBILE BATTERIES. THIS KIND OF LEGISLATION IS NEEDED ON THE FEDERAL LEVEL TO ENCOURAGE RECYCLING AND THE USE OF BIODEGRADEABLE MATERIALS.

* OCEAN DUMPING OF SLUDGE MUST END. THE CONGRESS VOTED TO DO SO 11 YEARS AGO AND IT IS STILL GOING ON. WHILE MANY EXPERTS CONTEND THAT THE DUMPING OF SLUDGE 106 MILES AT SEA HAS NOT

CONTRIBUTED TO THE PROBLEM OF FLOATABLES WASHING UP ON OUR BEACHES, THOSE IN THE FISHING INDUSTRY SUSPECT IT IS CONNECTED TO BURN SPOTS AND FIN ROT THAT HAS BEGUN APPEARING ON SOME FISH AND SHELLFISH.

* CONGRESS SHOULD DO WHAT GOVERNMENTS EVERYWHERE ARE SUPPOSED TO DO---HELP THOSE WHO ARE UNABLE TO HELP THEMSELVES. I SPEAK SPECIFICALLY HERE OF THE NEED FOR A RESUMPTION OF FEDERAL GRANTS TO UPGRADE SEWAGE TREATMENT PLANTS AND SEWER SYSTEMS.

FEW EXPERTS WILL CONTEST THAT A MAJOR SOURCE OF FLOATABLES IS THE NEW YORK-NEW JERSEY METROPOLITAN AREA. OUR MAJOR CITIES, ALREADY BURDENED WITH ENORMOUS COSTS IN OTHER AREAS, HAVE SIMPLY BEEN UNABLE TO AFFORD THE ESTIMATED $9 TO $12-BILLION COSTS OF BRINGING THEIR SEWAGE TREATMENT PLANTS AND SEWER SYSTEMS INTO COMPLIANCE WITH THE LAW. EACH TIME IT RAINS, THE COMBINED SEWER AND STORMWATER RUNOFF OVERWHELM THE NEW YORK CITY SEWER SYSTEM, FLUSHING INTO THE RIVER AND OUT TO SEA. JUST AS PREDICTABLY, THE SUMMER'S PREVAILING WINDS WILL PUSH THIS POLLUTION ONTO OUR BEACHES.

ALL THE THREATS AND FINES IN THE WORLD WILL NOT HELP THEM CLEAN UP THEIR ACT. BUT FEDERAL MONEY MIGHT.

* LOCAL MUNICIPALITIES SHOULD CONSIDER USING NEW HIGH TECH INCINERATORS FOR DISPOSAL OF MEDICAL WASTE. AS A NEW YORK STATE ASSEMBLYMAN, I AUTHORED LEGISLATION THAT IS NOW BEING IMPLEMENTED BY GOVERNOR COUMO, FOR THE SAFE DISPOSAL OF MEDICAL WASTE. IT ALSO REQUIRES A REGIONAL APPROACH TO SUCH DISPOSAL.

MORE COSTLY ALTERNATIVES, INVOLVING SHIPPING OF SUCH WASTE LONG DISTANCES, ONLY ENCOURAGES ILLEGAL DUMPING. JUST AS WE MUST

BE CRACKING DOWN POLLUTERS WHO ARE DUMPING SYRINGES IN SEWERS WE ALSO HAVE TO MAKE PROPER DISPOSAL AS CONVENIENT AND AFFORDABLE AS WE CAN.

* THE CONGRESS NOW HAS BEFORE IT H.R. 4231, SPONSORED BY REP. BRENNAN OF MAINE, THAT WOULD CREATE 10 MARINE RESEARCH CENTERS IN THE NATION. THE STATE UNIVERSITY AT STONY BROOK---WITH ITS INTERNATIONAL REPUTATION IN THE SCIENCES---WOULD BE AN IDEAL LOCATION FOR SUCH A CENTER TO SERVE OUR AREA. I HAVE BEEN WORKING HARD TO MAKE THIS A REALITY AND I STRONGLY RECOMMEND THAT YOU SERIOUSLY CONSIDER PLACING SUCH A CENTER AT STONY BROOK.

* SUFFOLK HAS LONG PUSHED TO HAVE THE PECONIC BAY ON OUR EAST END DECLARED AS A NATIONAL ESTUARY. I REPEAT THAT RECOMMENDATION TODAY. THIS IS A TOP PRIORITY OF MY ADMINISTRATION.

SUCH A DESIGNATION WOULD NOT ONLY HELP US TO PRESERVE AND PROTECT PECONIC BAY, IT WOULD ALSO MAKE SUFFOLK ELIGIBLE FOR THE TYPE OF FUNDING FOR RESEARCH THAT COULD BENEFIT SIMILAR BODIES OF WATER ACROSS THE NATION.

* ONE OF THE PRIME LAW ENFORCEMENT AGENCIES ON OUR WATERWAYS, THE U.S. COAST GUARD, MUST ASSUME ITS RIGHTFUL ROLE AS THE PROTECTOR OF OUR WATERS. IT HAS BEEN SERIOUSLY UNDERFUNDED FOR YEARS AND MONEY SPENT TO IMPROVE ITS EFFECTIVENESS WOULD PAY DIVIDENDS TO OUR CITIZENS FOR YEARS TO COME. I STRONGLY RECOMMEND CONGRESSIONAL ACTION IN THIS AREA.

* I AM HAPPY TO BE APPEARING ON THE SAME PANEL AS MR. MUSZYNSKI OF THE ENVIRONMENTAL PROTECTION ADMINISTRATION BECAUSE I BELIEVE HIS AGENCY NEEDS YOUR HELP AS WELL. THE EPA IS OUR

FIRST LINE OF DEFENSE AGAINST THOSE WHO WOULD WANTONLY DESPOIL OUR WATERS.

ITS ABILITY TO COLLECT DATA, TO COORDINATE REGIONAL ACTIVITIES AND TO ENFORCE THE LAW HAS, LIKE THE COAST GUARD, BEEN SERIOUSLY HAMPERED BY INSUFFICIENT FUNDING. A NATION THAT CAN SPEND BILLIONS ON UNTRIED AND UNTESTED HIGH TECH WEAPONS SYSTEMS LIKE STAR WARS CAN---AND SHOULD---SPEND MORE TO PROTECT ITS PRECIOUS WATERS.

* LEST YOU GROW TIRED OF THIS LITANY FROM ME OF WHY **YOUR** LEVEL OF GOVERNMENT SHOULD SPEND MORE TO HELP **OURS**, LET ME DWELL FOR A MOMENT ON WHAT WE IN SUFFOLK COUNTY ARE DOING.

SUFFOLK COUNTY IS ABOUT TO EMBARK ON WHAT WE BELIEVE TO BE THE LARGEST AND MOST AMBITIOUS GROUNDWATER PROTECTION PROGRAM IN THE UNITED STATES.

OVER THE NEXT 10 YEARS WE ARE PLANNING ON EARMARKING ABOUT $570 MILLION IN OUR SALES TAX REVENUES TOWARD THE ACQUISITION OF MORE THAN 32,000 ACRES OF WATERSHED, AND LOCAL DOLLARS TO UPGRADE SEWAGE TREATMENT PLANTS. WE ARE INDEED PUTTING **OUR** MONEY WHERE OUR MOUTHS ARE.

* A NUMBER OF LEGISLATIVE PROPOSALS NOW BEFORE THE CONGRESS WILL, WE THINK, MAKE A MEASUREABLE IMPACT ON THE PROBLEMS OF COASTAL POLLUTION AND GIVE THE FEDERAL GOVERNMENT THE RESOURCES IT NEEDS TO MAKE SURE THAT THE "SUMMER OF '88" REMAINS A MEMORY ONLY. WE WHOLEHEARTEDLY SUPPORT THIS LEGISLATION.

H.R. 5231, SPONSORED BY CONG. STUDDS SPECIFICALLY BANS THE OCEAN DUMPING OF MEDICAL WASTE AND PROVIDES THE KIND OF TOUGH FINES NEEDED TO MAKE THIS DIRECTIVE STICK. THE MAXIMUM PENALTIES ARE A FINE OF $250,000 AND FIVE YEARS IN PRISON.

BUT, MORE IMPORTANT, FOR THE FIRST TIME THIS LAW WOULD MAKE CLEAR THAT WHEN ILLEGAL DUMPERS ARE CAUGHT THEY WILL FACE THE LIABILITY OF PAYING FOR THE COSTS OF CLEANUP.

IT IS OUTRAGEOUS THAT THE VERY PEOPLE WHOSE BEACHES ARE DESPOILED BY THIS WASTE WIND UP HAVING TO FOOT THE CLEANUP COSTS. THIS BILL PLACES THE RESPONSIBILITY FOR CLEANUP SQUARELY WHERE IT BELONGS... ON THE POLLUTER

ONE FAR-REACHING PROPOSAL THAT COULD ELIMINATE MANY TYPES OF MEDICAL WASTE IS EMOBODIED IN LEGISLATION SPONSORED BY REP. GEORGE HOCHBRUECKNER OF SUFFOLK COUNTY. HIS LEGISLATION WOULD DIRECT THE COMMERCE DEPARTMENT TO FUND RESEARCH INTO DEVELOPMENT OF BIODEGRADEABLE SYRINGES AND OTHER SUCH MEDICAL PRODUCTS.

H.R. 5199, INTRODUCED BY CONG. FLORIO, AND S. 2689 BY SEN. LAUTENBERG PROVIDE FOR "CRADLE TO GRAVE" TRACKING OF MEDICAL WASTE. THIS IS THE KIND OF STEP THAT WILL SHARPLY LIMIT SUCH WASTE DUMPING IN INAPPROPRIATE LOCATIONS.

AND, AS I HAVE MENTIONED EARLIER, WE ALSO SUPPORT SEN. LAUTENBERG'S BILL, S. 2030 THAT WOULD BAN ALL OCEAN DUMPING OF SEWAGE SLUDGE BY DEC. 31, 1991. CONTINUING TO USE THE OCEAN AS A BOTTOMLESS RECEPTACLE FOR WASTE MAY MINIMIZE SHORT-TERM COSTS, BUT IT ONLY POSTPONES THE MASSIVE PRICE OF SALVAGING THE OCEAN.

IN THE LAST EIGHT YEARS THE FEDERAL GOVERNMENT HAS BEEN WITHDRAWING FROM THE ANTI-POLLUTION BUSINESS. I BELIEVE IT'S TIME FOR A NEW COMMITMENT ON THE PART OF THE FEDERAL GOVERNMENT TO PROTECT OUR LIQUID ASSETS.

IF IT DOES REFLECT THAT COMMITTMENT, PERHAPS OUR LIQUID ASSESTS WILL ONCE AGAIN SPARKLE IN THE "SUMMER OF '89."

THANK YOU FOR THE OPPORTUNITY OF SPEAKING WITH YOU TODAY.

#7

Natural Resources
Defense Council

122 East 42nd Street
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212 949-0049

Testimony of Lisa Speer, Senior Scientist

NATURAL RESOURCES DEFENSE COUNCIL

Before the

Subcommittee on Fisheries and Wildlife Conservation

and the Environment

Committee on Merchant Marine and Fisheries

U.S. House of Representatives

on

Coastal Pollution and Beach Closures in the New York Metropolitan Area

September 6, 1988

Jones Beach, New York

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Mr. Chairman, Members of the Committee:

My name is Lisa Speer. I am Senior Staff Scientist with the Natural Resources Defense Council (NRDC), a national environmental organization headquartered here in New York. With me today is Andrew Kass, a researcher who works primarily on hospital waste issues, and Lynne Edgerton, an attorney who handles our work on ocean disposal of New York City's sewage sludge. We welcome the opportunity to testify today on the problem of beach closures and related coastal pollution issues in the New York Metropolitan region.

I. INTRODUCTION

Sewage contamination and medical waste washing up on shore were the primary culprits behind this summer's rash of beach closures along the New York and New Jersey shorelines. These twin problems, significant by themselves, are symptomatic of an even greater pollution crisis facing this region's coastal waters. A review of regional disposal practices reveals a shocking litany of trash, toxics and human waste dumped, pumped and littered into local waterways:

- 62.8 billion gallons of raw sewage pours untreated into the waters surrounding New York City each year. Another 47 billion gallons of untreated sewage flow from New Jersey municipalities and Long Island and Westchester counties.[1]

- 4,000 pounds of toxic metals pass through the New York City's 14 sewage treatment plants and into surrounding waters each day.[2]

- 8 million tons of sewage sludge containing more than 500 tons of metals are dumped 106 miles off the coast every year.[3]

- Untold millions of gallons of stormwater runoff, contaminated with organic and inorganic pollutants, waste

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1. New York Times, July 25, 1988 at B-4.

2. Based on NRDC's analysis of 1987 data from the NYC Department of Environmental Protection.

3. For a discussion of sewage sludge dumping in the New York area and its effects, see NRDC's testimony before this Subcommittee on August 2, 1988; and EPA's Determination to Deny petitions to redesignate the 12 mile sludge dumpsite (50 Fed. Reg. 14336). Metals data from Assessment of Ocean Waste Disposal - Case Studies; SAIC, Prepared for the Office of Technology Assessment (October 3, 1985) at 2-11, Table 2.4.

crankcase oil, dog droppings, toxic metals, and garbage surge untreated into the region's waterways every time it rains.[4]

- A ton or more of trash blows into surrounding waters from barges transporting garbage to the 3,000 acre Fresh Kills landfill, New York City's main dumpsite on Staten Island, during heavy winds.[5]

- Two million gallons of leachate laced with cyanide, arsenic, naphthalene, and other toxics leach from the Fresh Kills Landfill into surrounding waters every day.[6]

- Acid rain, stormwater runoff and untreated sewage contribute to algal blooms which strip water of life-giving oxygen and contribute to massive fishkills that occurred repeatedly around the region over the summer.

- More than five million cubic yards of sediments dredged out of ship channels in New York Harbor are dumped 4.6 miles off the Long Island (Rockaway) coast each year.[7]

- 32,000 wet tons of hydrochloric acid waste is dumped each year at a site 15 nautical miles off Long Island.[8]

The effects of all of these pollutants pouring into the region's coastal waters are poorly understood. Brown tides, green tides, red tides, dolphin deaths, fishkills, health advisories, fishery closures, hypoxia, shellfish burnholes, garbage washups, scum slicks, and other events signal a system in serious trouble. While precise linkages are not always possible, one thing is clear: the coastal ocean does not have an unlimited capacity to assimilate the wastes of the 15 million people who live in the New York Metropolitan region. In the absence of an effective federal and regional response, this summer's beach closures may only be a taste of things to come.

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4. For a discussion of "non-point source" pollution (e.g., runoff from urban, industrial, agricultural and other lands) and its effects, see NRDC's testimony before this Subcommittee on July 13, 1988.

5. New York Times, July 25, 1988 at B-4.

6. NYC Department of Sanitation, 1985. Fresh Kills Landfill DEIS at ES-8 and 5-15; and U.S. EPA, 1987. Compliance Monitoring Report, Fresh Kills Landfill, December 17, 1987, at Table 1.

7. EPA Region II, April 1988. Ocean Fact Sheet Package at 6.

8. Id. at 1.

II. BEACH CLOSURES

Sewage contamination and medical waste washups accounted for the majority of beach closures this summer. Long Island's south shore beaches suffered primarily from medical waste washups, Long Island Sound was plagued by raw sewage, and New York City's beaches were hit by both.

A. Sewage

The Problem

Untreated sewage in coastal waters poses two problems. First, bacteria and other micro-organisms in sewage can cause intestinal disorders, hepatitis, skin rashes and eye infections in exposed humans. State and city health officials close beaches when levels of fecal coliform, a bacteria found in human intestines, exceed health standards. Fecal coliforms themselves are not injurious, but are indicators of the presence of pathogenic viruses and bacteria in raw sewage.

A second problem arises when nutrients in sewage act as fertilizers, stimulating extremely rapid algae growth, or algal "blooms." The subsequent death and decay of this algae consumes large amounts of oxygen. In extreme cases, decaying algal blooms fed by raw sewage, fertilizer runoff, acid rain and other sources can strip the water of oxygen, causing widespread death of fish and shellfish.

Sewage and wastewater treatment facilities in the region process vast amounts of wastes. The 15 million people inhabiting the New York-New Jersey Metropolitan Area discharge approximately 3 billion gallons per day through 26 major treatment plants, 100 industrial and municipal point sources and over 700 "combined" sewer outfalls.[9] In New York City alone, 6,200 miles of sewer pipes and 14 sewage treatment plants process 1.7 billion gallons per day, an amount roughly equal to 10% of the Hudson River's flow.[10]

The City's sewage facilities, parts of which are 300 years old,[11] are clearly not capable of dealing effectively with this load. In preparing a report on the City environment to be

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9. NYC Department of Environmental Protection, 1986. New York Harbor Water Quality Survey at 1 and 2.

10. Id.; and NYC Department of Environmental Protection, 1986. City-wide Combined Sewer Overflow Study, Final Report at 3-1 (hereafter, NYC CSO Study).

11. NYC CSO Study at 3-1.

released this fall, NRDC analyzed 1987 sewage treatment plant monitoring data. We found that only 4 of the City's plants are consistently meeting the Clean Water Act's secondary treatment requirement for removing 85% of sewage pollutants.[12] Three of twelve plants never meet the standard, and five missed it in five or more months in 1987.[13]

Of even greater concern are the more than 100 billion gallons of raw sewage that pour untreated into the waters of the region each year.[14] Much of this raw sewage can be traced to outfalls from "combined" sewers, which handle both sewage and stormwater. During storms, rainwater joins normal sewage and the resulting volume overwhelms the capacity of sewage treatment plants. When this happens, "regulators" divert the sewage and stormwater through outfalls directly into surrounding waterways to protect the treatment plants from flooding. In New York City, where at least 70% of the sewers are combined,[15] raw sewage is dumped directly from roughly 400 outfalls nearly every time it rains.[16] These "combined sewer overflows" (CSOs) also carry tremendous amounts of garbage deposited in sewers or swept from city streets during rainstorms into waterways.

Even in dry weather, leakage through poorly maintained equipment allows at least 5% of New York City's sewage to escape

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12. The City's two newest plants -- Red Hook and North River -- are currently running at primary treatment levels, but are expected to achieve secondary treatment by mid-1989.

13. Secondary treatment is supposed to remove 85% of the suspended solids (SS) and biochemical oxygen demand (BOD), and achieve effluent limits of 30mg/l of both SS and BOD. In contrast, primary treatment consists merely of settling out solids. Neither treatment is capable of removing metals and other toxics, and roughly 7000 pounds of metals pass through New York's treatment plants each day. Of this, 4000 pounds is discharged directly into surrounding waterways and 3000 pounds is deposited in sewage sludge, which is dumped at a site 106 miles off the coast.

14. Of this, New York City accounts for 64 billion gallons, New Jersey municipalities for 41 billion gallons, and Long Island and Westchester counties for roughly 4 billion gallons. New York Times, July 25, 1988 at B-4.

15. NYC CSO Study at 3-1.

16. New York Times, July 25, 1988 at B-4.

untreated into surrounding waters.[17] A 1987 study found that the largest detrimental water quality effect on Flushing Bay was attributable to dry weather discharges from CSOs,[18] due in part to malfunctioning regulators in the combined sewer systems.

New York's problems with combined sewer overflows are not unique. Bridgeport and New Haven in Connecticut, and Bayonne, Camden, Elizabeth and Jersey City in New Jersey, are among the 15,000 - 20,000 CSOs currently operating around the country.[19]

Progress on upgrading sewage treatment, though glacial, has nonetheless led to improved water quality in the region and the nation.[20] Unfortunately, the effects of combined sewer overflows will be felt even after all sewage treatment plants are fully constructed and operating.[21] This is because CSOs, which bypass sewage treatment facilities, remain essentially uncontrolled. Although the federal Clean Water Act prohibits discharges from point sources without an NPDES permit, EPA and the states have not issued point source NPDES permits for many of the 15,000 - 20,000 CSOs nationwide. EPA's draft national CSO permitting strategy, while representing a step forward, is no substitute for a comprehensive program to eliminate untreated CSOs.

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17. Alan Mytelka, Director of the Interstate Sanitation Commission, quoted in The Reporter Dispatch (Westchester and Rockland Counties), June 7, 1988 at A-1.

18. URS Company, 1987. Flushing Bay Water Quality Facility Plan, Task 5.2. Technical Memorandum: Dry Weather Overflow Abatement in Flushing Bay and Creek at 1.

19. The Reporter Dispatch, June 7, 1988 at A-1; New Jersey Record, August 8, 1988 at A-8; and EPA, 1988, Draft National Combined Sewer Overflow Permitting Strategy, July 22, 1988 at 1 (hereafter, EPA CSO Strategy).

20. Until two years ago, 170 million gallons of raw sewage was discharged from the Upper West Side of Manhattan directly into the Hudson. New York Times, July 13, 1988 at B-2. The new North River Plant in upper Manhattan now provides primary treatment for this waste and is slated for upgrading to secondary treatment next year. Human intestinal bacteria counts in the Hudson have dropped 75% since the North River Plant opened. New York Newsday, March 15, 1988.

21. New York City Department of Health, 1986. Beach and Harbor Water Sampling Program at 4.

Recommendations

1. A comprehensive national plan for phasing out untreated combined sewer overflows is clearly in order. The national goal should be no discharge of untreated waste from any sewer. In the short term, the following steps can be taken to reduce the flow of toxics and other pollutants through CSOs into the nation's waters.

2. No new CSOs should be allowed under any circumstances.

3. EPA needs to aggressively use pretreatment programs to mitigate the harm of untreated industrial wastes that are discharged through CSOs. An effective pretreatment program for industrial waste would also help reduce the load of toxic metals and other contaminants at sewage treatment plants, which are not equipped to remove them.

4. The discharge of potentially hazardous waste that is treated in sewage treatment plants, such as hospital and slaughterhouse waste, should be halted whenever combined sewer overflows occur. At present, untreated blood, blood products, ground-up body parts and organs, and other infectious liquid or semi-liquid hospital waste can legally be disposed of into the sewers.[22] Because these and other wastes depend on secondary treatment to be properly treated, they should not be disposed of in sewers when combined sewers are overflowing, or when secondary sewage treatment is not available.

5. For antiquated systems like these in Boston and New York, new facilities, such as retention basins, will be necessary. Planning for funding these facilities needs to begin now.

B. Medical Waste

The Problem

Washups of syringes, blood vials and other medical trash onto the City's beaches and along the south shore of Long Island caused widespread revulsion and concern. Similar events were reported up and down the east coast from Massachusetts to North Carolina and in the Great Lakes. These washups are symptomatic of major shortcomings in the management of medical waste.

Medical waste includes "conventional" waste, such as product packaging and other refuse, as well as infectious or "red bag"

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22. Indeed, such discharge is recommended both by New York State and EPA.

waste.[23] In addition, medical facilities produce non-infectious waste that may nevertheless pose hazards to human health and the environment (eg., waste chemicals and drugs, radioactive wastes, sterile needles and scalpels, etc).

The types of wastes that washed up on local beaches this summer included laboratory rats, human stomach linings, sharps, syringes, blood vials, and plastic debris. Wastes washing up on the beaches expose the public to risks from puncture, possible contraction of infectious disease from contaminated waste and disease carried by animals attracted to the waste. In addition to health threats, the aesthetically offensive nature of the wastes severely threaten the affected areas' economies.

This summer's washups have focused attention on the increasingly pressing question of what to do with the vast quantities of potentially harmful medical waste generated each year. The Office of Technology Assessment (OTA) estimates that approximately 10% of the 2.1 million tons of hospital waste generated each year is infectious.[24] The State Department of Health estimates that New York City, its suburbs and its exurbs together generate 1.4 million pounds of infectious waste each week,[25] and still growing. The amount of infectious waste generated by nursing homes, funeral homes, research labs, doctor and dentist offices, veterinarian and other facilities, is anyone's guess. The amount of non-infectious waste that may pose other hazards to human health or the environment is also unknown.

Despite the tremendous volumes and potential hazards posed by these wastes, no federal program exists to ensure the proper packaging, treatment, transportation, disposal or tracking of medical wastes. Federal recommendations for medical waste

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23. EPA recommends that the following wastes be treated as infectious: blood and blood products; pathological wastes (including body parts, organs and tissues removed during surgery, autopsy and biopsy); contaminated "sharps," such as needles, scalpel blades and broken glass; cultures and stocks of infectious agents; and wastes from patients in isolation.

24. OTA, 1988. Testimony of Dr. K.D. Wagner before the Subcommittee on Regulation and Business Opportunities, House Committee on Small Businesses, August 9, 1988 at 1 (hereafter, OTA Testimony). Estimates of the amount of infectious medical waste generated by hospitals are plagued by uncertainty, in part because records are not required to be kept and in part because definitions of what constitutes "infectious" waste varies. No uniform test exists to objectively identify "infectious" waste, unlike radiologic waste.

25. New York Times, August 7, 1988 see p. 1.4.

management have been developed by EPA, the Centers for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA), but substantial variations exist between these recommendations, and none of them contain enforceable requirements.[26]

States and localities, left to their own devices, have developed widely differing approaches to medical waste. Some states regulate medical waste transportation, while others focus on treatment and disposal. Eleven states and the District of Columbia do not regulate "infectious wastes" at all.[27] Even for those states with controls, the system does not function adequately to protect public health and the environment.

New York's experience illustrates the inadequacies of state and local medical waste management. Since 1985, New York City has prohibited "potentially infectious waste[s]" from being disposed of within the city's landfill system.[28] Despite the regulation, there is evidence that more than half of the city's 83 municipal hospitals have illegally mixed infectious waste -- including syringes, blood vials, and scalpels -- with their general waste.[29] Medical wastes have turned up at city facilities, such as the Greenpoint municipal incinerator in Brooklyn, and state and local officials have theorized that at least some of the wastes that are washing up on the areas' beaches originated from the city's barges on route to the Fresh Kills landfill site on Staten Island.[30]

On August 10, 1988, New York State's Department of Environmental Conservation announced the issuance of emergency regulations to label and track medical waste pursuant to legislation enacted more than a year before the current crisis.[31] Unfortunately, the manifest requirements do not apply to generators who produce less than 220 pounds of waste per month. As Senator D'Amato has pointed out, 220 pounds is a lot of vials

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26. OTA Testimony at 5.

27. Council of State Governments, 1988 at 5.

28. Title 16 of the Administrative Code of the City of New York §16-120.1.

29. "Hospital Waste Outrage," New York Post, August 2, 1988, at 4; "Medical Waste -- New Rules," New York Post, August 3, 1988, at 4; and "Mystery of Fouled Beaches: Clues, but No 'Smoking Gun,'" The New York Times, July 25, 1988 at A1.

30. Id.

31. 6 NYCRR Part 364.

and needles.[32] Neither the size or quantity of waste produced at a particular facility are relevant factors in protecting public health and the environment from the risks posed by medical wastes. As we have seen this summer, even a few syringes resulted in beach closures.

Furthermore, New York State law requires treatment and/or disposal of infectious waste by incineration, sterilization, discharge to the sewer system (if the waste is liquid or semiliquid), or by other methods approved by the Commissioner of Health. All three of these treatment and disposal methods, which along with landfilling are the primary methods of disposal used throughout the nation, pose hazards at least as great as those posed by medical waste washups. These practices are not governed by any federal controls.

1. Incineration

Hospitals nationwide are estimated to incinerate 70% of their medical wastes on-site.[33] Hospitals in New York City, the northern suburbs and on Long Island together incinerate one-half million pounds of infectious waste on-site every week, while an additional 876,000 pounds is shipped upstate or out of state for incineration.[34]

Hospital waste incineration is a concern for several reasons. First, hospital incinerator emissions of both dioxins and furans (two known carcinogens) are one to two orders of magnitude higher per unit of waste burned than are emissions from municipal solid waste incinerators. Concentrations of acid gases emitted also appear considerably higher for medical waste.[35] Yet existing incinerators, and particularly on-site hospital incinerators, frequently lack even the most basic pollution control equipment. In a New York state survey, 70% of 238 hospitals responding said their incinerators had no pollution

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32. New York Times, July 19, 1988.

33. OTA Testimony at 4.

34. New York Times, August 7, 1988.

35. OTA Testimony at 9; and "Hospital Waste Combustion Study, Data Gathering Phase, Final Draft Report," prepared by Radian Corporation for U.S. EPA, Office of Air Quality Planning and Standards, October 1987, at 3-25, 3-26. In part, the emissions problems result from the high composition of plastics, which account for 30% of the medical waste stream.

control equipment at all.[36] This lack of pollution control combined with the fact that hospital incinerators are often located in urban areas, operated by poorly trained staff and have low stack heights, compounds the dangers to public health from incineration.[37]

In addition to the lack of federal regulations governing air emissions, there are no uniform federal standards governing operating temperatures and residence time, operator training and monitoring specifications, and ash disposal requirements. The limited data that exists indicates that concentration of both dioxins and furans are considerably higher in hospital incinerator fly ash than in municipal incinerator fly ash.[38]

2. Steam Sterilization (Autoclaving)

Steam sterilization or autoclaving is applied to approximately 15% of the medical waste stream.[39] Available information suggests that operating conditions and practices vary widely among facilities. For instance, although effective destruction of certain bacteria require exposure periods of 90 minutes,[40] some facilities apply only a 20 to 30 minute time period. New York is one of only four states which specifically regulate the time, temperature, and pressure conditions for autoclaving, conditions which are key to the sterilization of infectious materials.[41] Wastes that are sterilized require

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36. The Village Voice, September 6, 1988 at 33.

37. Poor practices include "batch-burning," which increases the frequency of start-up and shut-down periods, and uneven and low burning temperatures, compound the problem. Adequate monitoring systems for emissions levels and temperature also appear to be non-existent. Incinerator temperatures during operation not only affect emissions levels, but are critical to the destruction of the infectious material itself. Where operating temperatures are below 1600°F, viable infectious organisms may be released into the surrounding environment. Only 12 states have regulations specifying performance standards for incineration of medical wastes. Council of State Governments, 1988 at 15.

38. OTA Testimony at 10.

39. Id. at 4.

40. William Rutala, et al., "Decontamination of Laboratory Microbiological Waste by Steam Sterilization," Applied Microbiology, 43(6) : 1311-1316, June 1982.

41. Council of State Governments, 1988 at 15.

additional treatment or disposal because there is no volume reduction.

3. Sewage Disposal

Incredibly, the practice of pouring blood, blood products, ground-up body parts, and other liquid infectious wastes down sewer drains remains one of the "recommended" methods of disposal. In theory, facilities discharge their waste in the expectation that it will be dealt with at municipal and county sewage treatment plants. In reality, medical facilities following this recommendation are releasing their wastes without assurance that treatment will in fact take place, and are contributing to the nation's water pollution problems in several respects.

First, the nation's sewage treatment plants have not demonstrated sufficient implementation of secondary and tertiary treatment systems. Although 87% of the nation's publicly owned sewage treatment plants have met the July 1, 1988 EPA deadline for compliance with the Clean Water Act's requirement for secondary treatment, more than 400 plants have not. The non-complying systems include some of the largest municipal systems, such as those in Boston and New York City. As indicated above, only four of New York's fourteen sewage treatment plants routinely meet secondary treatment standards. The absence of tertiary treatment systems is even more widespread.

Secondly, many municipal sewer systems, including New York's, discharge millions of gallons of sewer effluent that is not treated at all. As discussed above, the City's sewage treatment plants divert millions of gallons of untreated sewer contents nearly every time it rains. This means that blood, ground-up body parts and other infectious liquid waste from the City's many hospitals are likely discharged without treatment on a routine basis.

Finally, medical wastes contribute to the contamination of sewage sludge. Sewage treatment technologies are not suited for the treatment of the chemical, radioactive, and metallic agents contained in some medical wastes. The problem is particularly critical because of the difficulty of disposing of contaminated sludge.

4. Landfilling

Twelve states currently allow untreated medical wastes to be landfilled.[42] (New York commendably prohibits the practice.) The vast majority of such landfills are unlined, lack leachate

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42. Council of State Governments, 1988 at 15.

collection systems, and do not monitor for groundwater contamination. We believe landfilling of untreated infectious waste and other medical waste that poses hazards to human health and the environment should be flatly prohibited.

5. Transportation

Only seven states currently regulate the transportation of medical waste at all.[43] Even the most comprehensive state efforts to regulate medical wastes cannot address the interstate aspects of medical waste management.[44] Very simply stated, the shipment of wastes out of state for treatment and disposal, the movement of air contaminated with dioxins, acid gases, and heavy metals from poorly operated incinerators, groundwater contamination from unlined landfills, and the deposits of medical and other forms of wastes on the shores of our nation's oceans, rivers, and lakes do not respect political boundaries. States that are concerned about these issues should not have to be exposed to threats from neighboring states. Minimum federal standards and requirements would prevent states without regulations from becoming dumping grounds for medical waste from states with more stringent policies.

EPA's Existing Recommendations Do Not Constitute An Effective National Policy For Medical Waste Management.

In 1980, EPA deferred listing "infectious wastes" as part of the federal hazardous waste program until identification of treatment methods to exempt such wastes from regulation could be completed. At the time, EPA expected to be able to list infectious waste as hazardous by the end of 1980.[45] EPA never listed infectious waste as hazardous, however. Instead, the Agency developed a Guide to Infectious Waste Management, completed in 1986, and no longer acknowledges its original intentions of eight years ago.[46]

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43. Council of State Governments, 1988 at 13.

44. See 6 NYCRR Part 364 and N.J.A.C. 7:26-3A enacted under the states' emergency powers, August 10, 1988.

45. Hazardous Waste Management System, Identification and Listing of Hazardous Waste, 45 Fed. Reg. 33084, 33087 (May 19, 1980).

46. EPA Guide For Infectious Waste Management, EPA/530-SW-86-014 (Washington, D.C. 1986). In testimony before the House Committee on Small Business on August 9, 1988, EPA produced a chronology of EPA's involvement with infectious waste management that excluded the Agency's 1978 and 1980 statement of intention to include infectious waste under Subtitle C.

EPA's Guide is a poor substitute for an effective national policy. The Guide admits that it is intended to serve only as a "reference" document, and even then, only addresses the problems posed by infectious characteristics. Although the Guide contains helpful advice, and legislation is pending to require EPA to enact its recommendations as regulations, the Guide is not enforceable; it does not have the force of law.

NRDC sees certain substantive problems with the Guide even if it were incorporated into regulations. First, EPA's definition of "infectious waste" is too narrow because it applies to only a limited segment of the medical waste stream.[47] Infectious wastes should be included as a subset of a broader category of hazardous medical wastes.

Second, the Guide admits that it does not address one of the most infectious and deadly diseases, acquired immunodeficiency syndrome (AIDS).[48] Yet it is the public's fears of becoming infected with AIDS that are a driving force behind the growing demand for a regulatory system for medical wastes.

Finally, even as a reference document, the Guide fails to make specific recommendations on the best available methods and technologies for the management of medical waste. The Guide is devoid of specific information on what approaches should be taken and the procedures that should be followed.

It is clear that EPA will not respond to the medical waste problem unless instructed to do so by Congress. The Agency continues to maintain that the problem is "regional", and that medical wastes are better managed at the state level as part of municipal solid waste programs rather than as hazardous wastes.[49] In recent testimony, the Agency stated that it "will consider regulations only if education and guidance fail to improve

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47. EPA defines infectious waste as "waste capable of causing infectious disease." 53 Fed. Reg. 20140, 20142 (June 2, 1988). According to EPA, "for a waste to be infectious, it must contain pathogens of sufficient virulence and quantity so that exposure to the waste by a susceptible host could result in infectious disease." 53 Fed. Reg. at 20142.

48. Id. at vi.

49. "Legislation Reflecting Public Outcry Would Force EPA Controls on Medical Waste," Inside EPA, July 29, 1988, at 5.

current management practices."[50] We have already seen that guidance is no substitute for a uniform set of standards governing the management of hazardous medical waste. It is time for Congress to take action.

Recommendations

1. Medical waste should be listed as hazardous under Subtitle C of RCRA.

In light of the numerous deficiencies outlined above in the current approach to managing medical wastes that poses threats to human health and the environment at the state and local levels, NRDC recommends that medical wastes be listed as hazardous under Subtitle C of RCRA. Section 1004(5) of RCRA, 42 U.S.C. §6903(5) defines a hazardous waste as "a solid waste, or combination of solid wastes which because of its quantity, concentration, or physical, chemical, or infectious characteristics may -- (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed." Many medical wastes satisfy all of the above conditions.

By listing harmful medical waste, EPA would incorporate it into the existing cradle-to-grave management system that is already in place for hazardous wastes, including the requirements for packaging, transportation, tracking, carefully controlled disposal, and stringent penalties for violations. Rather than constructing a separate regulatory program for wastes which are in fact hazardous, NRDC believes that the most expeditious way to control the management of medical wastes would be to place them in an already existing regulatory system. The result would be a standardized set of specific procedures for managing medical wastes. There is no justification for not applying this stringent approach to the treatment and disposal of medical wastes.

In addition, the inclusion of medical waste under Subtitle C will help deter illegal disposal because it makes violations a felony and imposes stringent civil and criminal penalties for

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50. In recent testimony, the Agency stated that it "will consider regulations only if education and guidance fail to improve current management practices." The "eight-point plan" reiterates this position. Statement of Jeffrey D. Denit, Deputy Director for The Office of Solid Waste, U.S.E.P.A. Before the House Committee on Small Business, Subcommittee on Regulation and Business Opportunities, August 9, 1988 at 9.

violations. Existing civil penalties at the state level are clearly inadequate and do not provide substantial disincentives for illegal dumping of medical wastes.[51]

2. Incineration

All medical waste incinerators, whether existing or under consideration, on-site or regional, should be equipped with pollution control devices. If older, on-site facilities are unable to comply, they should be retrofitted or closed. In addition, requirements should be developed to ensure the existence and adequacy of operator training programs, and the use of monitoring systems to maintain optimum operating conditions and emissions controls.

Residues from medical waste incinerators should be subjected to the same, or stricter, requirements as those that apply to municipal incinerator ash. NRDC has provided specific recommendations for ash in A Solid Waste Blueprint For New York State.[52] We urge that, at a minimum, ash disposal requirements include testing procedures, separate handling for bottom and fly ash, ash monofills with double composite liners, leachate collection systems, ground water monitoring systems, and handling requirements that protect against spillage, leakage, and ash dispersal.

3. Autoclaving

EPA should be directed to develop testing procedures to demonstrate the effectiveness of autoclaving and to determine proper operating conditions. Uniform federal regulations should be established that at a minimum specify time, temperature, and pressure requirements. NRDC also recommends that the practice, in general, be limited until such regulations and testing procedures are developed and implemented.

4. Disposal in sewers and landfills

A program for eliminating sewer disposal of untreated infectious wastes where full secondary treatment is not assured, as well as of wastes containing toxic metals, radioactive and other wastes that are not treated effectively by sewage treatment

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51. 42 U.S.C. §6928(c),(d),(f). RCRA penalties include civil penalties of $25,000 per day of violation and criminal penalties of $50,000 per day and two to five years in prison upon conviction for violations.

52. Natural Resources Defense Council, et al., A Solid Waste Blueprint For New York State, March 1988, pp. 79-92. A copy is attached for the record.

plants, should be a priority. Congress should prohibit landfilling of untreated infectious and other medical wastes that poses hazards to human health and the environment.

5. The definition of "hazardous medical wastes" should be expanded.

The need to expand the regulatory structure to cover all medical wastes that pose hazards to health or the environment is necessitated by the fact that medical wastes other than those defined as infectious may present similar and/or their own sets of risks and threats to public health and the environment. For example, in EPA's Guide, wastes such as those from surgery and autopsies, contaminated laboratory wastes, dialysis unit wastes, and "discarded equipment and parts that may be contaminated with infectious agents" are listed only as "optional" for designation as infectious wastes and therefore for special handling and treatment.[53] The definition of hazardous medical wastes should also account for those agents which exhibit acutely toxic or radioactive characteristics.

6. An effective tracking system should be established.

NRDC recommends that two concurrent tracking systems be established for medical wastes. A new system should be created to identify manufacturers, distributors, commercial purchasers of medical supplies, and medical facilities, and to place identifying marks on medical products. The system would resemble that which already exists for food and other over-the-counter items, such as aspirin. A coded identification should be imprinted on individual medical products, and be sufficiently resistant to exposure to sea water and other elements to prevent obscuring the product's identity. In concert with the Food and Drug Administration and the Consumer Product Safety Commission, EPA should be directed to explore existing authority under TSCA §6, the Federal Food, Drug, and Cosmetic Act, and the Consumer Product Safety Act to support such a product marking program.

The second tracking system should be the manifest system established under RCRA Subtitle C to track hazardous waste from the point of generation to the point of disposal. The manifest system should include waste treated at on-site incinerators. Additionally, those facilities with on-site incinerators should be required to account for the disposal of their ash. Only then can we ensure that ash disposal requirements are followed and medical wastes are not co-disposed with incinerator ash and other combustion residues. NRDC recommends that ash be disposed

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53. Guide, at 2-5 and 2-6.

separately from other wastes in order to reduce the leaching of toxic metals present in incinerator ash.

NRDC supports the measure that recently passed the Senate in S. 2680, which would institute a tracking system for New, New Jersey, and Connecticut. However, we view this as only a first step toward implementing an effective manifest tracking system for medical waste. In our view, the system should reach beyond the three states included in the Senate's demonstration tracking program because the problem extends beyond those states.

7. Recommendations for state action.

Given that New York has experienced some of the worst problems with medical waste, NRDC recommends that New York State take immediate action to:

a) strengthen and make permanent the emergency tracking system; and

b) incorporate medical waste that poses hazards to human health and the environment into the State hazardous waste management system.

III. CONCLUSION

This summer the environment appears to have reached and exceeded its carrying capacity threshold for absorbing the pollution created by late 20th century life. Each day the media report on polluted waterways and beaches, fish kills, red tides, brown tides, ozone depletion, global warming, drought, record surface ozone levels, forests dying, and other signals of a gravely taxed natural environment. The release of pollutants into the environment must be curbed, and changes made in the way waste has been handled in the past. Medical waste and sewage are only two aspects of this larger problem, but they are a particularly sensitive and potentially dangerous ones. The federal government has an important role to play in moving us toward a solution which will protect both public health and the integrity of our waterways and beaches.

Thank you for the opportunity to testify.

Testimony of

J. R. Schubel

Provost

and

Dean and Director

Marine Sciences Research Center

State University of New York at Stony Brook

Before the

Subcommittee on Fisheries and Wildlife

Conservation and the Environment

Committee on Merchant Marine and Fisheries

U.S. House of Representatives

6 September 1988

My name is J. R. Schubel. I am a coastal oceanographer. I am Provost of the State University of New York at Stony Brook and Dean and Director of the State University of New York's Marine Sciences Research Center (MSRC). I also am Chairman of the Board of Directors of the Marine Division of the National Association of State Universities and Land Grant Colleges and past President of the Estuarine Research Federation.

The Marine Sciences Research Center is the oceanographic center for the entire State University of New York (SUNY) system -- the largest university system in the world. Two features distinguish the MSRC from most of the nation's other leading oceanographic institutions. The first distinguishing feature is its clear and persistent focus on the Coastal Ocean, from approximately the outer edge of the continental shelf inland to roughly the last traces of measurable sea salt. A second distinguishing feature of the MSRC is its commitment to the timely application of the results of scientific inquiry to the resolution of practical problems in the Coastal Ocean, problems which result from society's uses and misuses of the Coastal Ocean. Recently, the MSRC created a Waste Management Institute to concentrate on finding solutions to the region's waste management problems. We intend to add a new Coastal Ocean Strategies Institute this year to shorten the time between advances in and applications of knowledge.

I thank Congressmen Studds and Downey for organizing this important hearing and for this opportunity to make a statement. It is appropriate that this hearing should take place here in New York. No state in the Nation has as rich a diversity of coastal marine environments as has New York. Within a radius of 25 miles of where we now stand, New York has barrier islands and beaches; a bar-built estuary; a drowned river valley estuary; an estuary extensively modified by glaciation; deep estuaries; shallow estuaries; expansive tidal wetlands; one of this nation's, and indeed the world's, most important ports; the famous, or infamous, New York Bight Apex; and open continental shelf waters.

Not only is the diversity of New York's coastal marine environments unmatched, but also the uses of society on those environments. Nearly 10% of the entire population of the United States lives within a radius of 50 miles of New York City's Empire State Building. Some of these people live in New Jersey and Connecticut. This enormous population makes extensive, intensive and often conflicting uses and demands of its coastal environments. Swimming, boating, fishing -- both recreational and commercial. But they are also used as "highways" for shipping and transportation, for ports, and as the receiving waters for many of society's wastes, not just wastes of those who live near the margins of these coastal environments, but wastes of people who live throughout the drainage basins of the rivers and streams that discharge into

these environments. The region's national recreation area--Gateway -- each year receives approximately one million more visitors than Yellowstone National Park!

The impacts of society on New York's coastal waters exhibit a strong west to east gradient. The impacts are large in the western end of Long Island Sound, in New York Harbor and in the New York Bight Apex. They decrease markedly to the east. The waters in eastern Long Island Sound are among the national's cleanest estuarine waters.

Because of the great diversity of natural coastal environments and the sharp gradient in the water quality, New York's coastal environments are ideal natural laboratories for designing and testing environmental management strategies. This opportunity has not been adequately exploited.

I will be brief and will restrict my comments to the questions of beach contamination and closures and will not comment on the broader issues of pollution of the Coastal Ocean. Because of the large number of people living in this region, because of the proximity of expansive stretches of some of the world's most beautiful beaches, and because of our climate, the region's beaches are magnets for crowds of swimmers and sunbathers throughout the summer. The photographer, Wegee, captured the essence of the Coney Island beach in his famous photograph of a standing-room only crowd. Indeed, it is not unusual to have more than 1 million people on that stretch of beach (about 3.5 miles long) on a holiday weekend day.

This summer has been an unusually warm summer and one might have expected a larger than normal attendance on our beaches. As we all know, however, this was not the case. Attendance was down dramatically. A number of beaches were alternatively opened and closed. The primary culprit that led to closing of ocean beaches was floatables. At inshore beaches, and at a few ocean beaches, bacterial contamination also led to closings. I will restrict my observations to the floatable issue.

- Why did these incidents occur?
- What's different about the summer of 1988?
- Who's to blame?
- Can we prevent the reoccurrence of beach closings because of the stranding of obnoxious floatables? Or at least, can we reduce the probability of reoccurrence of this problem?

Why Did the Floatable Incidents Occur? What's Different About the Summer of 1988?

- The total amount of floatables in our coastal waters is probably increasing, primarily because of the increase of plastics. However, the total inventory this year is probably not significantly different from last year. What is different this year is the anomalous signature of medical wastes and drug paraphernalia.

- Sewage-related floatables probably have decreased in recent years as a consequence of upgrading treatment plants in New York City.

- The amount of floatable medical wastes and drug paraphernalia stranded on our beaches has increased.

- Some of the syringes found on beaches are probably left there by drug abusers. They may get floated by high tides and waves and redistributed.

- Because of the consciousness and fear of AIDS, the occurrence of even small amounts of medical wastes and drug paraphernalia in the environment causes alarm and draws attention in as dramatic way to a larger, chronic problem -- floatables.

- There is no single source of the floatables that end up on our beaches. There are many.

- Floatables are ubiquitous in the New York Bight.

- At any given time, there are a large number of floatable items in the New York Bight. Although their density (number/area) may be small, the total number of items is large because the area is large.

- The primary sources of these floatables are combined sewer outfalls (CSO), poor municipal solid waste disposal practices, commercial and recreational boats, and outflows from bays and estuaries.

- Ocean disposal of sewage sludge at the 106 nautical mile site is <u>not</u> a contributor to the floatables problem.

- This summer's meteorological and oceanographic conditions conspired to aggravate the floatables problem.

- Whenever we have prolonged periods of persistent southerly winds, waters in the New York Bight are driven toward Long Island shores and with it floatables in the

water. This summer has been characterized by prolonged periods of persistent southerly winds.

- Heavy rains increase the addition of floatables to the ocean from New York City and to the back bays of New York and New Jersey. When rainfall intensity exceeds a few tenths of an inch for an hour or more, New York City treatment plants must bypass sewage and storm water runoff directly to harbor waters without treatment. This is a direct result of New York City's combined sewer-storm drain system.

- New York City's combined storm-sewer drain system contributes significant amounts of floatables to the marine environment, particularly during and immediately following rainfall events. Steps should be taken to improve effectiveness in keeping floatables out of storm drains and in intercepting those that do enter before they are released to the marine environment.

- July 1988 was one of the wettest July's on record, with most of the rainfall coming in at the last 10 days of the month.

- The greatest threats and damage from this summer's beach closings have been to the economy. The perceived threats to human health have been far greater than actual threats.

- There is a growing consensus among public health officials that floatable waste (including medical waste) is more a public safety problem than a public health problem. In this regard, the floatable problem has been blown out of proportion.

Who's to Blame?

- We are; all of us.

- Aggressive pollution abatement programs are necessary, but not sufficient. Individual and institutional behavioral patterns are responsible for a significant portion of the floatable problem.

- The United States has the highest per capita production of garbage and trash of any nation in the world, more than 5 pounds per person per day. Approximately 50% of the total is packaging material of one kind or another.

- We need to reduce the amount of waste we produce, recycle and reuse more, and develop long-term strategies for the remainder.

Can We Prevent the Recurrence of Beach Closings Because of the Stranding of Obnoxious Floatables? Or at Least Can We Reduce the Probability of Recurrence of this Problem?

- We can reduce the probability of recurrence of this problem, but only if we acknowledge the real problem, only if we state it in a tractable form, and only if we pursue its solutions persistently.

- Society must develop and implement effective strategies for dealing with every major class of waste. The strategies must be based upon the full assessment of alternatives. They must provide appropriate protection of human health, the environment and its living resources, and they must be economically affordable.

- Unless cost-effective disposal options can be developed, we should expect to see an increase in illegal disposal, particularly of medical wastes. More stringent laws and manifest systems can reduce the violations.

- We must continue to improve the processes of removing litter and floatable debris from streets and other paved areas served by combined sewer systems.

- We must improve solid waste handling practices at transfer stations and during transport to landfills to reduce the volume of material escaping to estuarine and marine waters.

- We should establish standard criteria and procedures for closing and reopening the beaches as a result of stranding of floatables.

- We need a strict manifest system for all medical wastes, not just those from hospitals. It also needs to cover doctors' offices, clinics, drug treatment centers, nursing homes, veterinarians' offices and other small generators of medical wastes.

- One strategy that should be implemented immediately is rapid and thorough removal of floatables from beaches once they have been spotted. This should significantly reduce beach closures from floatables.

- A more coordinated and consistent data collection procedure should be established in order to effectively assess the type and quantity of wastes washing ashore. This is required in order to properly target sources requiring remedial action.

- As a society, we must identify suitable end points for each class of waste we produce and be meticulous in

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ensuring that wastes get from source to final disposal site with minimal loss of material.

- The selection of disposal strategies must be based upon an assessment of the full range of alternatives across all environmental media: air, land, and water. We have played environmental ping pong with our wastes for far too long; bouncing them from one part of the environment to another in response to public pressure. Neither the environment nor society has been well served.

- Unless decisive steps are taken -- the steps identified above and others -- we should expect to see a recurrence of this summer's events in future summers.

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Testimony of
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before the

U.S. House of Representatives
Committee on Merchant Marine Fisheries
Subcommittee on Fisheries and Wildlife Conservation
concerning

Coastal Pollution

September 6, 1988

Jones Beach, Long Island, New York

It is a pleasure to be here and to represent the Waste Management Institute (WMI) of the State University of New York. The goal of the Institute is to reduce the impact of waste generation and disposal on society through a program of research, assessment, education and policy analysis. It emphasizes programs focusing on alleviation of existing impacts of waste disposal, and recycling and reuse of wastes. It intends to foster the results of this research through education and outreach programs and by working with governmental institutions to help formulate sound waste management policy. Because of our geographical location, the Institute is unusual among waste management organizations in that it is interested and concerned about using the ocean for disposal of wastes. I thank you for the opportunity to provide our perspective on floatable wastes in the New York Bight and their relationships to the complex issues of waste management in the New York and New Jersey metropolitan area.

Many of the findings of this report are the result of an investigation conducted for the National Oceanic and Atmospheric Administration's Office of General Council as part of the Domestic Policy Council's Interagency Task Force Report concerning Floatable Wastes in the Marine Environment and for Region II of the U.S. Environmental Protection Agency as part of the New York Bight Restoration Plan.

INTRODUCTION

Waterborne waste materials and debris that are buoyant are euphemistically called floatables. Typical anthropogenic floatable materials include wood, beach litter (i.e., cans, bottles, styrofoam cups, sheet plastic, straws, and paper products); sewage related debris (materials acknowledged to regularly reach sewage treatment systems such as condoms, sanitary napkins, tampon applicators, diaper liners, grease balls etc.); tar balls[1]; fecal material; and fishing gear (i.e., nets, floats, traps, and lines). A new category of floatables now of concern is that of medical wastes (hypodermic needles, syringes, bandages, red bags, enema bottles).

Unlike many types of marine pollution which are temporally and spatially quasi-stationary, floatable pollution episodes are transient. Often floatable material washes ashore in what are described as waves over periods of hours to weeks. Beaches have been alternately opened and closed from one day to the next.

Major sources of floatables in the New York Bight include combined sewer outfalls (CSOs), wastewater discharges; solid waste handling; commercial ships, fishing vessels and recreational boats; outflows from bays and estuaries; and beach users (Swanson et al., 1978 and New Jersey Department of

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[1] Tar balls are distinguished from grease balls in that tar balls are generally black and of a petroleum base. Grease balls are usually grey and derived from vegetable oils.

Environmental Protection, 1987). Accidental releases of floatables occur on occasion and include spills of raw sewage from treatment plant malfunctions[2], oil spills and other accidents of various types[3].

THE NATURE AND EXTENT OF THE WASHUP OF FLOATABLES

The summers of 1987 and 1988 illustrate the vicissitudes of the floatable problem. In 1987 some 40 km (25 miles) of New Jersey beaches were closed in late May and 80 km (50 miles) were closed in mid-August because of the washup of floatables. Only 0.4 km (0.25 miles) of Long Island south shore beaches were closed during the same summer (figure 1).

In 1988[4] floatables appeared to be a Long Island problem. Between 6-10 July, 93 km (50 nautical miles) of beaches were closed at times, while no New Jersey beaches were closed because of floatables. (figure 2).

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2 On 11 or 12 July 1988 an electrical power failure shut down the Port Richmond Water Pollution Control Plant on Staten Island releasing 76 m (20x10 gal) of raw sewage to harbor waters. On 2 June 1976, two sewage sludge storage tanks exploded on Pearsalls Hassock in Hempstead Bay releasing floatable material to the marine environment.

3 3100 metric tons (703 tons) of garbage were released to the East River when a garbage barge and an empty sewage sludge tanker collided on 22 January 1988.

4 This document only includes the 1988 floatables incidents through 10 July 1988. The floatables problems that occurred later in the summer, largely in response to heavy rains during the latter part of July, will be the subject of further reports.

Floatables generally are considered to cause the following classes of problems:

1. aesthetic degradation of beaches and coastal waters,
2. public safety effects and the fear of public health effects from physical contact,
3. detrimental impacts on marine birds, turtles, fishes and other marine organisms, and
4. monetary costs of cleanup and of lost revenue by tourist industries.

Ecological impacts of plastic floatables in particular have been discussed elsewhere and are summarized in Wolfe (1987).

Purely aesthetic degradation due to floatables is difficult to assess quantitatively. While it is suspected that beach attendance and the use of coastal waters by recreational boaters is reduced as a consequence of aesthetically displeasing floatables, this has not been measured. Certainly tourism continues to be on the rise in the Caribbean where floatables, particularly tar, have long been an aesthetic problem on many popular beaches.

Alcohol towels for cleaning tar off feet have been accepted beach paraphernalia for years in some areas. Beach cleaning of routine debris is an accepted practice in many parts of the country as well as in the Bight area. It would appear that for most situations, these techniques are effective mechanisms for keeping tourism at a peak.

In recent years, beaches in the Bight have been closed because of the washup of floatables. The closures on Long Island

in 1976 and 1988 and in New Jersey in 1987 were particularly memorable. There are no consistent criteria for such closures. Beach closures depend upon the decisions of the local governmental entity in charge of the beach in consultation with its counterpart public health authority. The public health consequences of contact with the floatable material has been uncertain. Because of the look and smell of some floatable material and its assumed origin, the potential health threat was assumed to be significant. In 1976 the unusually large quantities of sewage related wastes, particularly the grease balls with high fecal coliform counts, were cause to close the beaches. This happened in spite of the fact that the water quality at the beaches was quite good. In 1988 one hypodermic needle was sufficient to prompt closing the entire Smith Point Park beach in Suffolk County.

The total volume of waste material through 10 July 1988 was much less than in 1976, and the water quality has again quite good. As experience has been gained concerning health effects of the floatable sewage related and medical wastes, there is a growing consensus that these effects are minimal and public safety (cuts, punctures etc.) of greater concern. More consistent beach closure guidelines may be forthcoming.

Because of the difficulty of the problem, little work has been done to characterize and quantify the "standing crop of floatables." The New Jersey Department of Environmental Protection (1987) did attempt to quantify floatables in the spring of 1987. This effort was not associated with a "floatable event" and was conducted prior to the beach season. Routine

beach cleaning operations were not yet established for the summer.

Perhaps the greatest impacts of floatable events are those associated with depressed coastal tourist trade and in 1988, at least, some reports of reduced sales of fishery products. The New York Times (24 July 1988) reported that in 1976 restaurants, bait and tackle shops, and pier fishing businesses experienced a 20%-30% decline in revenue, because of the huge amount of debris that washed up on the south shore beaches of Long Island. In 1987, the beach and parks revenues for the Town of Seaside Heights, NJ, were down $220,000 from 1986. The town had to raise property taxes 15% to make up for lost revenues. This year, the beach revenues are down by $70,000 and the town may have to raise taxes again.

Many New Jersey coastal businesses are suffering severe losses in 1988 because of 1987's waste washups. For example, sales at Nagle's Pharmacy in Ocean Grove are down 80% this summer. In addition, the town of Ocean Grove may lay off lifeguards and beach attendants to save money because the usual beach attendance of 1200 people per day dropped to 120 people per day.

Pop Joe's boardwalk restaurant at Point Pleasant Beach, NJ, is down 75% in sales so far in 1988, making this the worst business year in the restaurant's 50 year history. Hotels and rental homes as far south as Cape May, NJ, which is 100 miles south of the southernmost closed beach in New Jersey, are suffering a 15% decline in business.

Long Island businesses are suffering as well. Attendance at two of Long Island's most popular beaches, Jones Beach and Robert Moses Beach, is down 50% since medical wastes were spotted on south shore beaches on 6 July 1988. So far, this has cost the parks system over $350,000 in lost revenue. In 1987 between 7 July and 17 July, 1.3 million people visited Robert Moses Beach and Jones Beach. This summer, during the same time periods, only 596,000 people attended the two beaches. Inns and restaurants on Long Island's south shore, although not as severely affected as New Jersey's shore businesses, are suffering losses of 50% this summer. The Gilgo Beach Inn in Babylon, Long Island for example, is down by 60% from last summer.

Table 1A summarizes the floatable count per half mile of beach (all categories) for the approximately 60 miles of beach from Sandy Hook to Beach Haven Terrace, NJ. The counts were not necessarily conducted simultaneously but were conducted for three general beach conditions - average beach conditions, following a high tide, and following a rain. As might be expected, the quantity of floatables decreased from north to south. The amounts were somewhat higher following a high tide or after a rain. The heaviest impact area clearly was Sandy Hook to Long Beach.

Table 1B indicates the number of tampon applicators and syringes in the above counts. The occurrence of tampon applicators has been included in the tabulation, because they were used as an indicator in the Long Island beach pollution problem in 1976. There were no syringes found along this stretch of beach in the spring 1987 survey.

TEMPORAL CHANGES IN THE WASHUPS OF FLOATABLES

Floatables have been a concern in coastal waters of the United States for many years. In the New York Bight they have been a problem for most of the 20th century. Had the coast of Long Island and New Jersey been more populated in the 19th Century, floatables might well have been considered a major problem then - primarily as a consequence of street sweepings, garbage and other types of wastes disposed directly into New York Harbor waters.

Aldous Huxley (1956) called attention to the problems of floatables and inadequate sewage treatment along the southern California coast prior to World War II in his essay "Hyperion to a Satyr." Bascom (1964) points out that as late as the 1960s a small beach near Fort Bragg, CA was made up of tin cans that washed ashore from an ocean dumpsite of a nearby city. Even Alaska's beaches are littered to various degrees with floatable wastes of civilization. Plastic soap bottles etc. are commonly found. Japanese and Russian glass fishing floats represent a class of floatable debris of more interest and value. These glass balls float great distances in the Aleutian Current to eventually be beached on the shores of the Aleutian Islands and Cook Inlet. They are often found as far south as Washington and Oregon.

Floatables contributed to New York City's image as one of the filthiest urban centers of the mid-nineteenth century. Among other offensive materials, tanneries, slaughter houses, and butchers disposed of their waste water including "hair, bone,

blood and other animal byproducts" into the river (Goldman, 1988).

In order to alleviate the problems of disease, odor, and displeasing aesthetics that plagued the waterways of the city, street sweepings, garbage, and refuse were legally dumped in the harbor. Nonsewage wastes were required by the Corporation of New York to be dumped 91 m (300 feet) from the end of the piers (Squires, 1981). As early as 1888, a formally designated marine disposal site was established for all refuse including floatables (Gross, 1976). In October 1895 Metropolitan Magazine reported that resorts within 100 miles of the city were plagued with garbage washups. Table 2 summarizes the changing strategies and disposal locations for floatables over the period 1888-1932. In 1931 (Parran), the Governor's Special Long Island Sanitary Commission states that the cost of removing refuse from -1 Long Island's south shore beaches had cost as much as $10,000 mi of beach. The lack of consistent policy during these years indicates the ubiquitous character of the floatable problem. It took the U.S. Supreme Court to halt the dumping of refuse at sea. The last refuse barge sailed on 28 June 1934. Thereafter, incineration and landfilling became the favored solutions for disposal of floatable wastes (Gross, 1976).

Over the last century, the character of floatable waste in the Bight has changed considerably, as have our sensibilities to it. Seemingly, solutions have been implemented to alleviate the floatable problem, but no sooner than one is implemented another new type of objectionable floatable waste arises - perhaps impacting some different location.

Late in the last century and until the 1930s, refuse, largely in the form of garbage, paper, bottles, degradable metal containers, and dead animals were dumped at the designated refuse and floatable sites. Untreated sewage and associated materials such as the famed "Coney Island whitefish" entered the harbor waters through the sewerage system.

While the first sewage treatment plant in New York City was built by 1884, and screening for floatables was in place at the Jamaica Bay plant in 1927 (Squires, 1981), some 19.1 $m^3 s^{-1}$ (436×10^6 gal/day) of raw unscreened sewage still entered harbor waters in May and June of 1976 (NOAA, 1977).

With the end of refuse dumping at sea and the introduction of sewage treatment plants with various screening mechanisms, the floatables problem subsided in the 1940s and 1950s. However, with the expanding population of the region and our general nonchalent attitude toward litter, the quantity of floatable material was soon to increase. The aging sewerage infrasturcture allowed greater volumes of floatable materials to be bypassed, and more urban runoff surfaces fed the CSOs.

By the mid-1950s, America had become the throwaway society. Life magazine documented the phenomenon with its 1 August 1955 story on "Throwaway Living." But the throwaways of the 1950s were mostly degradable -- paper and wooden eating utensils.

The volume of floatables had increased but perhaps, more importantly, by the mid-1960s the character changed. The styrofoam cup and disposable diapers were part of daily life. Late in 1969 one of the major manufacturers of feminine hygiene

products introduced their plastic tampon applicator (personnel communication). Perhaps by the summer of 1970, the infamous "beach whistle" (plastic tampon applicator) began to wash ashore, kindling a renewed concern about floatable waste -- this time centered primarily around sewage related items.

Carpenter et al. (1972) reported that polystyrene spherules on the order of 0.5 mm in diameter were often found in coastal waters of southern New England including Long Island Sound where the average concentration was 0.07 spherules m^{-3} (2×10^{3} spherule ft^{-3}. The sources of the spherules were thought to have been plastic manufacturers rather than fabricators.

An even more noticeable entry into the floatable problem came with the introduction of the 1-liter PET (polyethylene terephthalate) soda pop bottle in 1977. The PET bottle now comes in other sizes and is a commonly observed item along the beaches of the Bight at any time. It is not clear that New York's 5 cent deposit law has had a dramatic effect on reducing this type of beach litter.

The beach closures along coastal New Jersey in 1987 and the south shore of Long Island in 1988 have focused on a totally different set of waste products -- hospital or infectious waste. As with sewage wastes, concern centers around the issue of public health and public safety. Why these wastes are appearing more frequently is not certain, however, there are possibly several contributing factors. Among these are

1. a marked increase in disposable medical care materials (even disposable telephones are available in some hospitals),

2. an increase in the use of medically associated equipment on the streets as a consequence of the drug culture,

3. an increase in illegal disposal of medical wastes as a consequence of the increased costs of disposal, and

4. a public awareness and sensitivity to medical wastes as a consequence of concern about the spread of AIDS.

That there has been a change in the character of the floatables waste is apparent when the presence of tampon applicators are considered. In the spring beach survey of 1987, the maximum number of tampon applicators found during any one of the three survey conditions was 34. During the 1976 Long Island floatable episode, counts were estimated at 17,000 for Fire Island alone (NOAA, 1977). Perhaps this reflects the fact that the quantity of raw sewage routinely reaching harbor waters has been reduced an order of magnitude in the last 12 years and now is on the order of 0.04 - 0.09 $m^3 s^{-1}$ (1×10^6 - 2×10^6 gal/day). It is clear that the quantity of potential floatable material is on the rise. And it is also apparent that the quanti[illegible] of non-degradable plastic is assuming a larger share of this burden. Table 3 illustrates this point showing the change in population along the coast of the Bight, the national increase in amount of garbage and trash generated per person per year and also the increase in the amount of plastic resin generated over the period 1970-1985.

Using these estimates, there was an increase of 79.4 metric tons (175×10^6 lbs). of garbage and trash in the Bight area in 1985 relative to 1970. Undoubtedly this reflects a potential increase in the volume of floatables that may be released over

time as well. The increase in the amount of resin generated over the same period suggests that a much greater percentage of the potential floatable material may be made of plastic.

Causes of Washups of floatables

In 1988 the bulk of noxious materials continue to reach Bight waters and beaches from the same sources as in 1976.

The Hudson-Raritan estuary serves as the greatest general source of floatable wastes to the Bight since the bulk of the individual sources tend to be located around the periphery of the estuary. Floatables are effectively flushed from the estuary during the time of the spring freshet, typically from March to May in the upper Hudson. The impact of the freshet on the Bight lags this by about one month so that large quantities of floatables can be expected to be flushed into coastal waters at or near the commencement of the summer beach season. The spring freshet can have a pronounced impact on the distribution of floatables in the Bight. A large runoff is very effective in flushing areas above the typical high water marks of winter. Beyond that, however, a large freshet will create a plume that will spread further than normal to the east in the Bight apex and south along the New Jersey coast. Thus, a large spring runoff will very likely have a large floatable load and one that is geographically more widely dispersed. Such was the case in 1976 when the combined May-June runoff was the fourth highest on record in the 41-year period from 1947 through 1987.

In 1987 the May-June runoff was the lowest for the same period. The Hudson River plume should have distributed

floatables much less widely than normal.

Other than at the time of the spring freshet, the floatable load at any one time in the estuarine plume is largely a consequence of the relatively recent rainfall history. A heavy rain following an extended dry period will most likely produce the heaviest volume of floatable material: streets will be cleansed, sewage treatment plants bypassed, and the transfer points and landfills flushed by runoff and perhaps higher storm high waters. It takes a rainfall intensity of only a few hundreths of an inch per hour for an hour or more in the metropolitan area for sewage treatment plants to be bypassed. The New York city Department of Environmental Protection estimates that a rainfall intensity of 0.15 $cm\ hr^{-1}$ (0.06 $in.hr^{-1}$) for 6.7 hr will cause bypassing of 24.2 $m^3\ s^{-1}$ (550 x 10^6 gal) of storm water and sewage. About 2% of this volume is untreated sewage (A. Forndran, personal communication).

Wetlands in the region also serve as traps where floatables are temporarily stored (NOAA, 1977 and R. Hemmett, personal communication). Monthly mean sea level in the Bight area is bimodel with the highest levels during summer months (figure 3) (Swanson, 1976). The first peak in June reflects the spring runoff while the second peak is more a consequence of a change in the heat content of the water column. The first peak is, as might be expected, more predominant in the Hudson-Raritan Estuary record than that of Atlantic City. It is likely that much of the "stored material" is re-released during spring tides at these

higher stages of sea level, particularly if there is a concurrent storm.

There is not a major seasonal variation in the monthly rainfall totals for the Bight area. The monthly range is between 8-13 cm (3-5 in.). August is the month that typically has the greatest amount of precipitation (11.3-13.5 cm) (4.5-5.3 in.). With respect to the floatable problem, however, it is the intensity of the rainfall that is most important. During summer, rainfall is generally in the form of thunderstorms (4-6 per month), and the intensity (rate), as a consequence, is more than twice that of wintertime (Lettau et al., 1976). These intense storms are more inclined to flush floatables into adjacent waters and to cause sewage treatment plant bypassing.

Once floatable materials are flushed into the Bight, they are subject to the physical oceanographic and meteorological processes operating on Bight waters. Most frequently they will be carried with the Hudson-Raritan estuarine plume along the New Jersey coast. This is why the beaches at Sandy Hook are so often cluttered with undesirable materials. (See Table 1).

The general flow of surface waters over the continental shelf is from the northeast to the southwest parallel to the trend of the coast. Floatable materials in the surface layers are transported with these currents but also influenced by wind driven transport.

During summer months, prevailing winds have a pronounced effect on the distribution and fate of floatables. Typically the prevailing wind is from the south or southwest. These winds tend to transport the floatables to the north and east. Thus,

floatable materials will tend to be well disbursed -- some lost at sea, others creating the general clutter that we have objected to on both New Jersey and Long Island beaches.

Floatable materials will tend to be concentrated at zones of convergence such as at the edge of the Hudson-Raritan estuarine plume and in Langmuir circulation cells. The latter "windrows" form parallel to the wind direction in the open ocean when the wind blows persistently with moderate velocity. Thus, streaks of floatable material are often observed. They are modified by currents near the shore so that they become more coast parallel and are often described as washing ashore in waves. Once floatables are accumulated in this way and driven close to the coast, sea breezes are probably a predominent factor in moving them ashore.

The change of the speed and direction of sea breezes are shown in figure 4 for the northern portion of the Bight (New York sector) and the southern Bight (Atlantic City sector) (Lettau et al., 1976). In the New York sector the sea breeze has a shoreward component beginning about 1:00 PM and lasting to perhaps 11:00 PM. From about 4:00 PM until 11:00 PM this breeze has a component that is normal to the Long Island coast. Thus, the sea breeze in the vicinity of Long Island intensifies the normal summer southerly to southwesterly winds.

In the Atlantic City sector the sea breeze is not as well defined. There is a shoreward component around 10:00 AM but this recedes quickly and is not re-established until about 7:00 PM -- lasting only until about 10:00 PM.

In 1976 the prevailing summer wind field intensified and was extremely persistent from the south southwest for a period of two weeks (9 June to 25 June), driving the floatable material northward and eastward and eventually ashore on Long Island (Swanson et al., 1978).

In 1987, the New Jersey Department of Environmental Protection has indicated that the washup of floatable material was prevalent during the periods of 27 May to 29 May, and 13 August to 16 August. Also during the periods of 3 to 4 and 9 to 10 September, heavy concentrations of floatable material were observed off the coast of New Jersey.

The May incident was preceded by the flushing action of the spring freshet of the Hudson River. Based on river stage data at Green Island, the peak flow is estimated to have reached the Bight in early May. Easterly to southeasterly winds occurred over much of the period 18 May to 27 May (figure 5), driving the recently flushed floatable material back toward the New Jersey coast.

Easterly to southeasterly winds dominated the period of 5 August to 14 August (figure 6). Further, between 3 August to 10 August, there was rainfall in excess of 5.1 cm (2 in.) in the metropolitan area, which undoubtedly thoroughly flushed the streets, combined sewers, and other major sources of floatables. Thus, there were meteorological conditions that led to heavy concentrations of floatables along the New Jersey coast in the summer of 1987.

Streaks of floatable material were observed on two occasions just off the coast in early September but in neither instance did

the material wash ashore in appreciable quantities. On 31 August and 1 September a total rainfall of 1.5 cm (0.6 in.) was recorded at J. F. Kennedy (JFK) Airport. Over the period of 6 September to 8 September another 2.0 cm (0.8 in.) of rain was recorded. Easterly winds blew much of the time between 4-8 September (figure 7). Thus, there was the potential to wash materials into the Bight and then ashore during the period of concern. For comparison see the progressive vector diagrams (PVDs) for the months of June and July 1987 (figures 8 and 9). The winds were by and large to the north and offshore. Floatables were not reported as a problem in New Jersey during June and July. There was a small washup on Atlantic Beach, Long Island on 23 June.

Review of the 1987 summer climatological information suggests that the normal southerly to southwesterly wind field was less persistent and less energetic than normal. Throughout the summer the normal wind field was interrupted with winds from the east and northeast. As a consequence of the less energetic winds, the northeasterly to southwesterly flow of surface waters was itensified. The Hudson-Raritan River plume stayed closer to the New Jersey coast than is typical of these months. Currents and their loads of floatables veered shoreward in response to the winds from the east and northeast.

While we know a great deal about the general sources of floatable waste to the Bight, the specific sources of the medical wastes that began to washup on Long Island's south shore beaches on 6 July 1988 are unknown. There are some observations that can

be made concerning the 1988 incident relative to that of 1976 that are helpful in analyzing the most recent problems.

1. Sewage related items were not as prevalent through 10 July 1988 compared to 1976. For example, it was estimated that there were 17,000 tampon applicators on Fire Island alone in 1976. Relatively few were found in 1988.

2. The items recovered in early July 1988 were not coated with grease associated with sewers and sewage treatment plants.

3. The only significant rainfall in the metropolitan area immediately prior to the washups occurred on 26 June (0.8 cm) (0.3 in.).

These observations suggest that this particular floatable incident was not predominantly sewage related. That is, it was not primarily caused by a CSO or sewage treatment plant bypassing. Sources therefore would appear to be associated with solid waste disposal.

Much of the waste appeared to be relatively fresh. Perhaps it had resided in coastal waters for a period of several weeks but not much more. The material could have come from

a. illegal dumping directly into marine waters,
b. careless solid waste transfer operations into which medical wastes had been inappropriately disposed,
c. refloated wastes from recent beach use, and
d. refloated wastes that had previously been trapped and filtered in marsh environments in the estuary and the back bays of New York and New Jersey.

A composite of the June and early July PVD is shown in figure 10. In early June the winds were offshore; however,

beginning on 14 June, the wind shifted to the south through 23 June. Past experience would indicate that these conditions were sufficient to transport floatable material ashore. However, there were no reports of floatable problems at the time; therefore there probably was not a source of floatables. The offshore winds dispersed floatable material east and south over a broad geographic area. Rainfall was minimal between 4-26 June so that the CSO load was small, and sewage treatment plant bypassing not necessary. Once the winds shifted to the south, there was an insufficient source of material in the Bight to cause a noticeable problem.

Beginning with 23 June the winds became confused before shifting to northwesterly on 30 June and then vigorously shifting to the south and south southwesterly on 3 July. On 6 July the first reported stranding of medical wastes came from Long Beach and Lido Beach. Similar reports came from numerous beaches on Long Island on the succeeding days with Smith Point Park, some 93 km (50 nautical miles) east of the Hudson Raritan Estuary, being closed on 10 July. The only significant rainfall in the metropolitan area in June occurred on the 26th and was 2.0 cm (0.3 in.) (New York Times).

Based on drift card studies (Hardy et al., 1975), floatable material typically moves at 4% - 4.4% of the wind speed and slightly to the right or left of the wind direction (depending on whether the wind driven transport supports or opposes the geostrophic surface currents). Using these assumptions, and back plotting the possible path of floatables from their landfall on

10 July at Smith Point, it would appear that they might have been transported from the Bight apex sometime around the mid to end of June and perhaps following the rainfall event of the 26th (figure 11). The trajectory described by the 4.4% path and the Long Island coast can be thought of as an envelope of possible trajectories of floatable material. Essentially any floatable material (including illegally dumped wastes) within the envelope could have washed ashore on Long Island between early 1 July and 10 July.

The Historical Wind Record

Review of the wind records of the summers of 1976 and 1987 relative to the historical record (1949 -1987) and the reference period (1949 - 1973) indicate that the winds for these years were on the average considerably different. See for example figures 12 and 13 that display the PVDs of the monthly resultant winds for the period May through September and June through August. The 1987 resultant vector for both the five month and three month periods are considerably shorter and slightly west of the 25-year mean resultant vector. Statistically the length of the resultant vectors for the two periods are significantly different from the mean of the two series (historical record and reference period). The direction however is not. These conditions are indicative of the wind having blown from the easterly and northerly quadrants more than usual.

Meteorologists use a measure called constancy as an indicator of the persistence of the wind blowing from a given direction. The higher the value, the more persistent the wind; a steady wind would have a constancy of 100. The 25-year norms for

June, July and August at JFK airport are tabulated in Table 4 along with the corresponding values for 1974, 1976, and 1987 and the June and July values for 1988. The lower values of the constancy in 1987 suggest that the wind was more variable about the mean direction and that the wind did not just blow from the same southerly to southwesterly direction but blew with less intensity. The high constancy values for June 1976 and July 1988 are similar and indicate a wind presistence that would wash floatable material toward Long Island. These data sets indicate two unusual but totally different wind fields. Stranded floatable material would be expected to be greater than normal for each of the years 1976, 1987, and 1988 but in the cases of 1976 and 1988 they would be on Long Island south shore beaches and in 1987 on New Jersey beaches.

The possibility of Prediction

The liklihood of predicting precisely that large quantities of floatables will wash ashore at any particular time and location in the Bight is remote. Assuming that the major sources of floatables reside in the Hudson-Raritan Estuary and the back bays of both New Jersey and New York, the following causes and sequence of events are required to establish conditions favoring a major washup. These include in order:

1. sources, such as sewage treatment plant bypassing for a variety of causes, combined sewer overflow perhaps from summer thunderstorms, high Hudson River runoff, poor solid waste handling, and illegal disposal:

2. three to five days for the bulk of the floatables to be transported from the harbor area to the Bight, and
3. the setup of a persistent wind from one of the favored directions that will wash floatables entering the Bight either toward Long Island or New Jersey.

Once material is transported into the surf zone, it will most likely be stranded on beaches during a sea breeze and on a falling tide (particularly following spring or neap conditions) and with a surf that is decreasing in height.

Perhaps least well known is the fate of advected and dispersed floatable material upon entering the Bight but prior to transport by a persistent onshore wind. Based on drift card studies, (Hardy et al. 1975) the following generalities can be made:

1. winds from the E through S to the SW can strand floatables on Long Island;
2. winds from the NE to SE can strand floatables on the New Jersey coast;
3. floatable material can be estimated to drift at 4.0% - 4.4% of the wind speed, the higher drift rate associated with easterly winds that reinforce the geostrophic current in the Bight;
4. in the Bight, when the wind blows from the SSE through WSW, floatables can be expected to drift slightly to the right of the wind; and
5. when the wind is from NE to SSE the drift can be expected to be slightly to the left of wind as a consequence of the geostrophic current in the Bight.

Hardy et al. (1974) developed probability contours for stranding of oil along Long Island's coast. Since they were based on plastic coated drift cards, the results are directly applicable to the washup of floatable material. An example for the April to September period is shown in figure 14. In this example, floatables found along a particular contour would have that probability of washing ashore on a Long Island beach within 10 days. This is based on 1974 wind conditions which were somewhat less persistent and energetic than normal when averaged over the entire summer (Table 4). Thus, the probabilities are somewhat underestimated.

Extending the above analysis, Hardy et al. (1975) constructed a set of "strandagrams" that project transport and dispersion of floatable material up to 10 days for the five southerly wind sectors from 068° to 270° T. The strandagrams for the southerly sector (158° - 202° T) and southwesterly sector (203° - 247° T) are shown in figures 15 and 16. Directions for use as a predictor are given in the original reference.

Notice that the probability of material washing ashore covers a greater geographic area when the wind is from the sector spanning 158° - 202° T. Due to Ekman transport there is increased divergence of coastal waters from the Long Island south shore as the winds shift to the west. In June 1987, the wind was more from the southwest (figure 8), and any floatable material in the water probably was held off the Long Island coast by this divergence.

In general summertime climatological and meteorological conditions favor the washup of floatables in the Bight beginning with the swimming season, particularly on Long Island's south shore. These conditions can be categorized into those favoring source generation and those favoring transport and deposition (Table 5). Major floatable events have occurred when the southerly winds have been particularly persistent. South southwesterly winds with a constancy approximating 50%, assuming that a source of floatables was available, have led to significant washups of material. The wind fields of June 1976 and July 1988, which are quite similar, are contrasted with that of August 1987 (figure 17). The percentage of the summers that wind persistence exceeded 50% and 40% for the months of June, July and August are tabulated in Table 6. Since 1976, August 1977 and July 1988 were the only months for which there was a constancy greater than 50%. In the case of August 1977, the resultant direction was from the southwest and the Eckman transport in the surface layer was probably sufficient to keep floatables from washing ashore.

Conclusions

Floatable wastes are ubiquitous in the New York Bight. The major sources of floatable waste are from CSOs; sewage treatment plant bypassing; poor solid waste disposal practices;commercial, fishing, and recreational boats; outflow from bays and estuaries; and people frequenting the beaches. Occasionally accidental spills, illegal discharges, etc. will add to the normal heavy floatable load.

Illegal disposal has probably been the major source of floatable medical wastes during the 1987 and 1988 events, as a result of deliberate dumping by some medical facilities or waste contractors servicing these facilities for the sole purpose of avoiding the high costs of appropriate disposal. Some medical wastes probably are also mixed in carelessly in with domestic solid wastes by small medical offices including veterinarians and chronic home based patients.

The recent rise in the costs of disposing of medical or infectious waste is an incentive to dispose of such wastes illegally. In an attempt to reduce the land-based impact of medical waste by increasing disposal costs, there has been a backlash through illegal dumping, some of which has reached marine waters. The cost for hauling hospital waste from the metropolitan area can be as much as \$1.76 Kg^{-1} (\$0.80 lb^{-1}).

It is important to recognize that the profusion of medical wastes on regional beaches in 1987 and 1988 is not a consequence of a technological breakdown. Instead it is linked to irresponsible or unthoughtful acts of people. Perhaps the most

effective mechanism for reducing the medical waste problem is by tightening controls on such wastes. A chain of custody for these materials from manufacture to ultimate disposal or destruction should be implemented.

Source reduction is a key to the overall problem of waste management, reducing the total volume of potentially floatable materials. With regard to medical wastes, the medical profession and its suppliers must examine the real need for its disposable supplies. Goldfarb (1987) estimates that 20%-30% of hospital waste is plastic compared to 3% - 6% for municipal solid waste.

Educational programs should be designed to encourage beach users and recreational boaters and marina operators to be more conscientious concerning proper waste disposal. Expanded disposal facilities should be available at all beaches and the frequency of trash removal increased. Governments and businesses can perhaps work together to create incentive programs to reduce beach littering and over-the-side disposal. The State of New Jersey is already instituting these types of programs.

There have been some improvements in the overall floatable waste problem in recent years. Specifically, the volume of raw sewage discharged in the metropolitan area has been reduced over an order of magnitude. There is also the rudiments of a program to control CSOs. The evidence of this improvement is in part seen in the fact that there were virtually no beach closures due to floatables from 1978 to 1987 when medical wastes appeared as a problem.

There are, however, technological improvements that should continue to be explored in order to further reduce the volume of

floatable wastes reaching area beaches. Some of these are:

1. improve operation and maintenance of sewage treatment plants and reinstitute emergency power supplies to reduce bypassing during power shortages;
2. strive to reduce or eliminate CSOs;
3. explore more thoroughly, alternatives for isolating material released to the marine environment by combined sewer overflow;
4. continue to improve the process of removing litter and floatable debris from streets and other paved areas served by combined sewer systems;
5. improve solid waste handling practices aimed toward recycling and the use of wastes as an energy source; and
6. improve the process of transferring materials to landfills and reduce the volume of materials escaping to marine water from landfills.

Short of these improvements we must be prepared to suffer the consequences of floatable beach pollution and associated beach closures.

Climatic conditions just before and during summer including high spring river runoff, intense thunderstorms, and high stages of monthly mean sea level in the metropolitan area lead to large floatable loads in the harbor. Power outages or brownouts caused by electrical storms and summer heat increase the likelihood for sewage treatment plant breakdowns and bypassing thus potentially adding to the already large floatable burden.

Unfortunately, both Long Island and New Jersey beaches are vulnerable to the washup of floatables. The Hudson River plume will continue to transport its floatable load along the northern New Jersey coast where it can periodically be transported shoreward.

Long Island is particularly vulnerable because of the normal southerly wind field during summer months. The daily onshore sea breeze intensifies the mean flow.

Until fewer potential floatables are manufactured, controlling their dispersal will be increasingly costly and uncertain. Until source control is more effective, intensive beach cleaning efforts are the remaining solution. Further, existing levels of source control may well reduce the useage of beaches nearest most of the metropolitan region's users, resulting in unprecedented pressures upon beaches further to the east and south, and heightening frustrations of those unable to reach the more distant beaches.

REFERENCES

Bascom, Willard, Waves and Beaches, Anchor Books, Doubleday & Company, Inc., Garden City, NY, 1964, 267 pp.

Carpenter, Edward J., Susan J. Anderson, George R. Harvey, Helen P. Miklas and Bradford B. Peck, "Polystryrene spherules in coastal waters," Science, Vol 178, 1972, pp. 749-750.

Curlee, T. Randall, The Economic Feasibility of Recycling, Praeger, New York, NY, 1986, 203 pp.

Goldfarb, Theodore, "Air pollution potential of hospital waste incinerators," Hospital Waste Workshop. Results and Conclusions, report of the Waste Management Institute, Marine Sciences Research Center, Special Report No. 78, Reference 87-2, 1987, pp. 28-29.

Goldman, Joanne M., "The development of a sewer systen in New York City, 1800-1866: evolution of a technological and managerial infrastructure," Unpublished Ph.D. thesis, State University of New York at Stony Brook, Stony Brook, NY, 1988, 203 pp.

Gross, M. Grant, "Waste disposal," MESA New York Bight Atlas Monograph Series 26, New York Sea Grant Institute, Albany, NY, 1976, 32 pp.

Hardy, C.D., E.R. Baylor, P. Moskowitz, and A. Robins, The prediction of Oil Spill movement in the Ocean South of Nassau and Suffolk Counties, New York, Marine Sciences Research Center, State University of New York at Stony Brook, MSRC Tech. Report No. 21, Stony Brook, NY, 1975, 327 pp.

Huxley, Aldous, "Hyperion to a Satyr," in Tomorrow and Tomorrow and Tomorrow, Harper, New York, NY, 1956, pp. 149-171.

Koebel, Charles T. and Donald A. Krueckeberg, "Demographic Patterns," MESA New York Bight Atlas Monograph Series 23, New York Sea Grant Institute, Albany, NY, 1975, 43 pp.

Lettau, Bernhard, William A. Brower, Jr., and Robert G. Quayle, "Marine climatology," MESA New York Bight Atlas Monograph Series 7, New York Sea Grant Institute, Albany, NY, 1976, 239 pp.

Life Magazine, "Throwaway living: dozens of disposable housewares eliminate the chores of cleaning up," Vol. 39, No. 5, 1 August 1955, pp. 43-44.

National Oceanic and Atmospheric Administration, "Long Island Beach Pollution: June 1976," MESA Special Report, Environmental Research Laboratories, Marine Ecosystems Analysis, Boulder, CO, 1977, 75 pp.

Neal, Homer A. and J.R. Schubel, Solid Waste Management and the Environment, Prentice-Hall Inc., Englewood Cliffs, NJ, 1987, 240 pp.

New Jersey Department of Environmental Protection, "New Jersey floatables study: possible sources, transort, and beach survey results," prepared by Science Application International Corporation under contract to Battelle Ocean Services, 1987, 49 pp.

Parran, T., Jr., Robert Moses, Thomas A. McWhinney and William H. Runcie, "Report on the Governor's Special Long Island Sanitary Commission, Nassau County," State of New York, Albany, NY, 1976, 34 pp.

Squires, Donald F., "The Bight of the Big Apple, The New York State Sea Grant Institute, Albany, NY, 1981, 84 pp.

Swanson, R.L., "Tides," MESA New York Bight Atlas Monograph Series 4, New York Sea Grant Institute, Albany, NY, 1976, 34 pp.

Swanson, R. Lawrence, Harold M. Stanford, Joel S. O'Connor "June 1976 Pollution of Long Island Ocean Beaches," Journal of the Environmental Engineering Division, ASCE, Vol. 104, No. EE6, Proc. Paper 14238, December, 1978, pp. 1067-1085.

Wolf, Douglas A. (editor), "Plastics in the Sea," Marine Pollution Bulletin, Vol. 18, No. 6B, June, 1987, pp. 303-365.

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TABLE 1. A. Total number of floatable objects found per half mile of beach at selected New Jersey beaches during average conditions, following a high tide and following a rain.

B. The number of tampon applicators and syringes found on the beaches in A.

A.

Beach	Number of Floatables: Average Conditions	After High tide	After Rain	Mean
Beach Haven Terrace	23	0	66	30
Harvey Cedars	79	0	42	40
Seaside Park	83	109	160	117
Bay Head	60	91	67	73
Spring Lake	72	95	67	78
Long Branch	602	1,198	789	863
Sandy Hook	3,040	3,051	3,089	3,060

A survey conducted in Spring 1987 prior to the summer beach season.

B.

Beach Haven Terrace	tampon	4		4	4.0
	syringes	0		0	0.0
Harvey Cedars	tampon	3		0	1.5
	syringes	0		0	0.0
Seaside Park	tampon	2	7	0	3.0
	syringes	0	0	0	0.0
Bay Head	tampon	0	3	0	1.0
	syringes	0	0	0	0.0
Spring Lake	tampon	1	0	1	0.7
	syringes	0	0	0	0.0
Long Branch	tampon	24	8	6	12.7
	syringes	0	0	0	0.0
Sandy Hook	tampon	0	1	15	5.3
	syringes	0	0	0	0.0
Total	tampon	34	19	26	
	syringes	0	0	0	

Table 2. Locations of the Floatable disposal sites in coastal water from 1888-1932.

Prior to 1888	Refuse dumped in New York harbor without extensive restrictions
1988	Mud buoy, 4 km (2.5 mi) south of Coney Island for deposit of all refuse, including garbage and city refuse
1 Sept. 1900	Point 0.8 km (0.5 mi) south and east of Sandy Hook Lightship (40 28.3'N, 73 50.1'W)
1 Dec. 1902	Point 2.4 km (1.5 mi*) east of Scotland Lightship (40 26.8'N, 73 55.3'W) in 12 fm (22 m) of water
1 Jan. 1906	Point 3.2 km (2 mi*) southeast of Scotland Lightship in 14 fm (25 m) of water
17 April 1908	For cellar dirt and floatable material, a point 4.8 km (3 mi*) southeast of Scotland Lightship
1 Sept. 1913	Set water depths for waste deposits at 15 fm 27 m (90 ft) or greater
1 May 1914	For material containing floatable matter, not less than 4 nautical miles (7.4 km) east-southeast of Scotland Lightship in not less than 14 fm (31 m) of water
1928	Garbage and street sweepings: winter (October-April) 12 nautical miles (29 km) southeast of Scotland Lightship; summer (April-October) 20 nautical miles (30 mi) southeast by east magnetic from Scotland Lightship
1931-1932	Garbage and street sweepings: southeast by east magnetic from Scotland Lightship April-July: 20 nautical miles (49 km) July-Oct.: 25 nautical miles (61 km) Nov. 1931-Jan. 1932: 12 nautical miles (29 km) Jan. 1932-Mar. 1932: 8 nautical miles (19 km) Mar. 1932-Apr. 1932: 25 nautical miles (61 km) Dumping of garbage permitted 12 nautical miles (29 km) southeast by east when gentle breezes blew from north, northwest, and west

*Location presumably given in nautical miles but not specified in reports

Source: Gross, 1976

Table 3

Comparison of population, annual per capita Municipal Solid Waste (MSW) generation and, resin manufacture 1970 – 1085

Year	Population		Per Capita MSW[2] generated per year		Resin Manufacture	
	X 10^6	% change relative to 1970	lb yr^{-1}	% change relative to 1970	lbs X10^9	% change relative to 1970
1970	17.8	–	1147	–	20	–
1975	18.6	4.5	1138	–0.8	22.5	12.5
1980	19.5	9.6	1217	6.1	38	90
1985	20.5	15.2	1249	8.9	47	135

1 Koebal and Krueckeberg, 1975. The Population Estimates are for the coastal counties of New Jersey and New York boardering the New York Bight and those counties boardering the Hudson River that are commonly within commuting distance of New York City

2 Neal and Schubel, 1987

Table 4. a. Wind constancy for June through August 1974, 1976, 1987, and June and July 1988 compared with the 25-year norm, 1949-73.

b. Wind energy for June through August 1974, 1976, 1987 and June and July 1988 expressed as a percentage of the norm, 1949-73.

a. Constancy (%)

Month	Norm	1974	1976	1987	1988
June	31.9	23.8	55.3	26.2	29.8
July	39.1	28.2	38.8	28.7	57.3
August	28.1	38.0	23.3	13.1	

b. Energy (%)

June	100	88	104	84	85
July	100	108	104	67	77
August	100	96	129	94	

Table 5. Meteorological and oceanographic conditions favoring source generation and transport of floatables

Source Generation

High river runoff - usually occurs in May flushing surrounding shorelines and marshes.

High stands of monthly mean sea level - these high stands, particularly in concert with spring tides can refloat stranded materials.

Thunderstorms - high rainfall intensities flushing urban areas and coastal marsh may lead to major combined CSO events and sewage treatment plant bypassing. Power outages may also occur causing sewage treatment plant bypassing.

Heat waves - brownouts or blackouts cause sewage treatment plant bypassing.

Transport and Deposition

Hudson River plume - high fresh water input into the Bight intensifies the coastal plume. It typically hugs the New Jersey shore, carrying with it a substantial floatable load, but may expand to the east and south during high flows.

Summertime wind field - the winds shift from the west and northwest to the south for the period May through September. These winds primarily favor floatable transport toward Long Island.

Sea breezes - the temperature contrast between the land and the sea creates a vigorous sea breeze that can help move floatable material shoreward. The sea breeze intensifies the normal southerly wind field off Long Island making its south shore particularly vulnerable.

Table 6. Percentage of times that wind constancy has exceeded 40% and 50% for the June, July, and August for the period 1959-1988. a.

Constancy %	June	July	August
40%	21	59	24
50%	10	24	10

a. Data for June and July 1962 are missing from the record; August 1988 not included in the record

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Figure 1. - Beaches of the New York Bight closed due to the washup of floatables, summer 1987.

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Figure 1

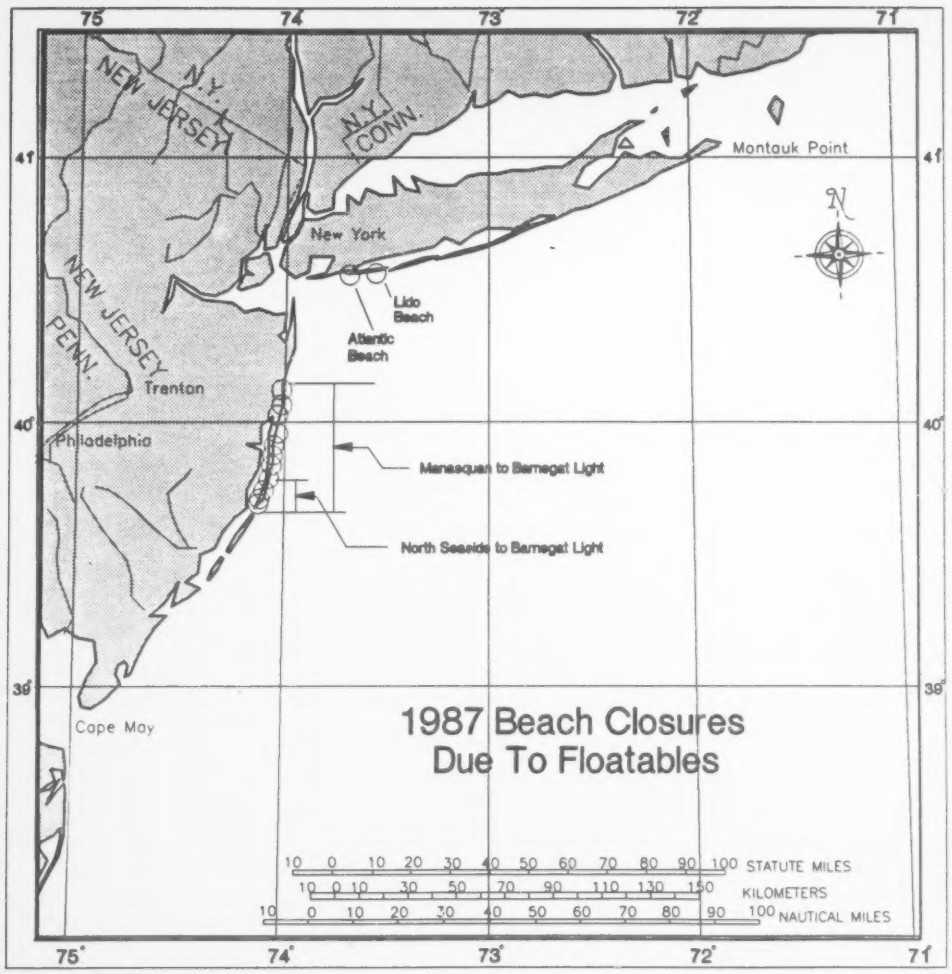

75
74
73
72
71
41
40
39
NEW JERSEY
N.Y.
N.Y.
CONN.
Montauk Point
New York
Lido Beach
Atlantic Beach
NEW JERSEY
PENN.
Trenton
Philadelphia
Manasquan to Barnegat Light
North Seaside to Barnegat Light
Cape May
N
1987 Beach Closures
Due To Floatables
10 0 10 20 30 40 50 60 70 80 90 100 STATUTE MILES
10 0 10 30 50 70 90 110 130 150 KILOMETERS
10 0 10 20 30 40 50 60 70 80 90 100 NAUTICAL MILES

Figure 2

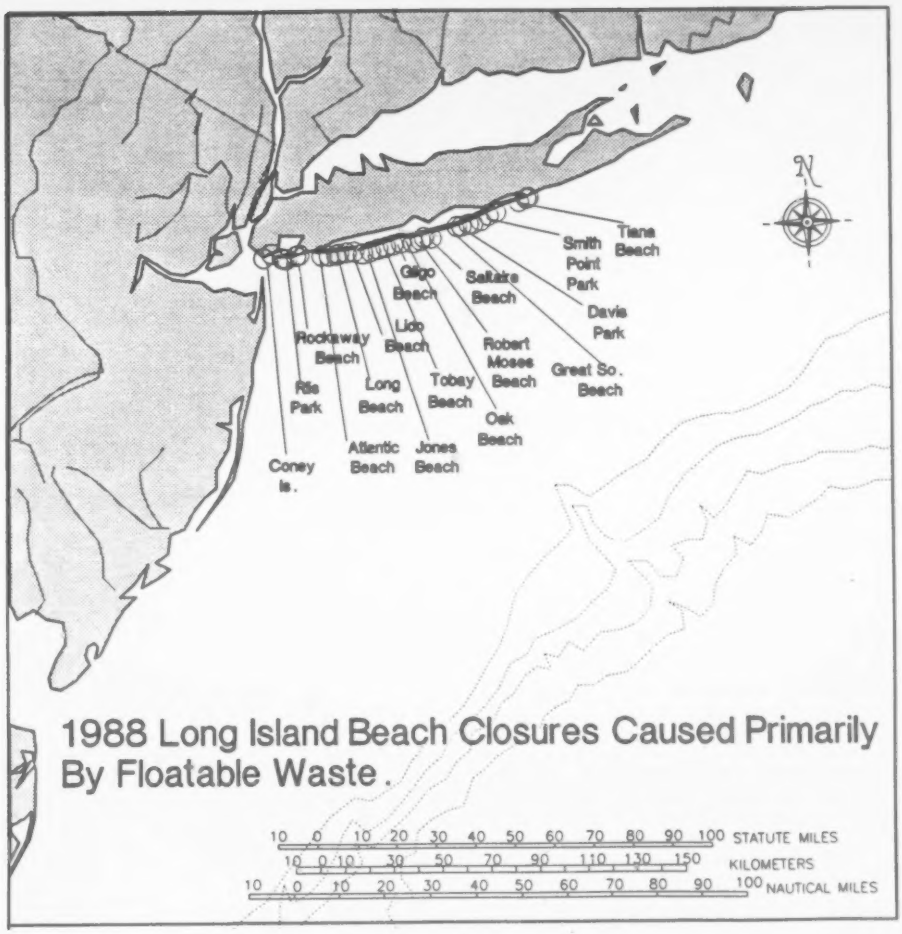
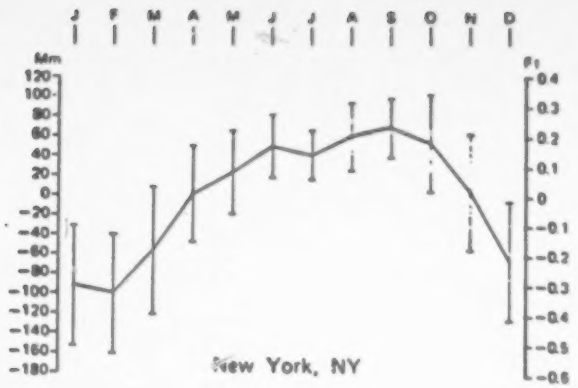
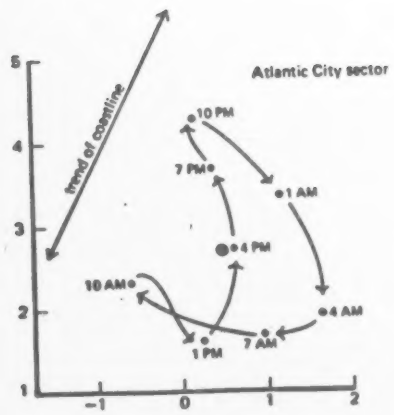

N
Tiana Beach
Smith Point Park
Gilgo Beach
Saltaire Beach
Davis Park
Lido Beach
Rockaway Beach
Robert Moses Beach
Great So. Beach
Rte Park
Long Beach
Tobay Beach
Oak Beach
Atlantic Beach
Jones Beach
Coney Is.
1988 Long Island Beach Closures Caused Primarily By Floatable Waste.
10 0 10 20 30 40 50 60 70 80 90 100 STATUTE MILES
10 0 10 30 50 70 90 110 130 150 KILOMETERS
10 0 10 20 30 40 50 60 70 80 90 100 NAUTICAL MILES

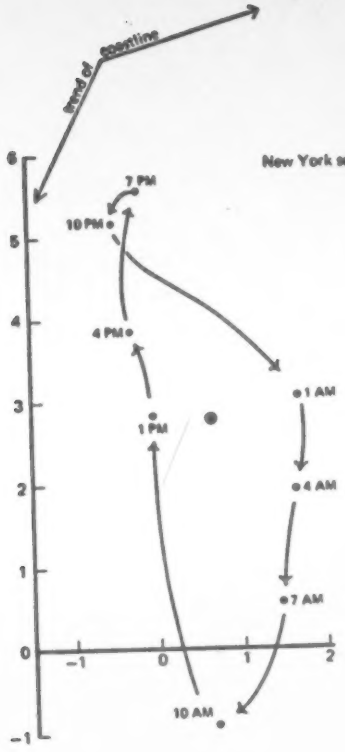
Figure 3



Monthly mean sea levels

Figure 4





LEGEND
● average resultant wind
● resultant wind vectors for observations at that time

Units are m/sec

Resultant wind vector: variation for June

Figure 5

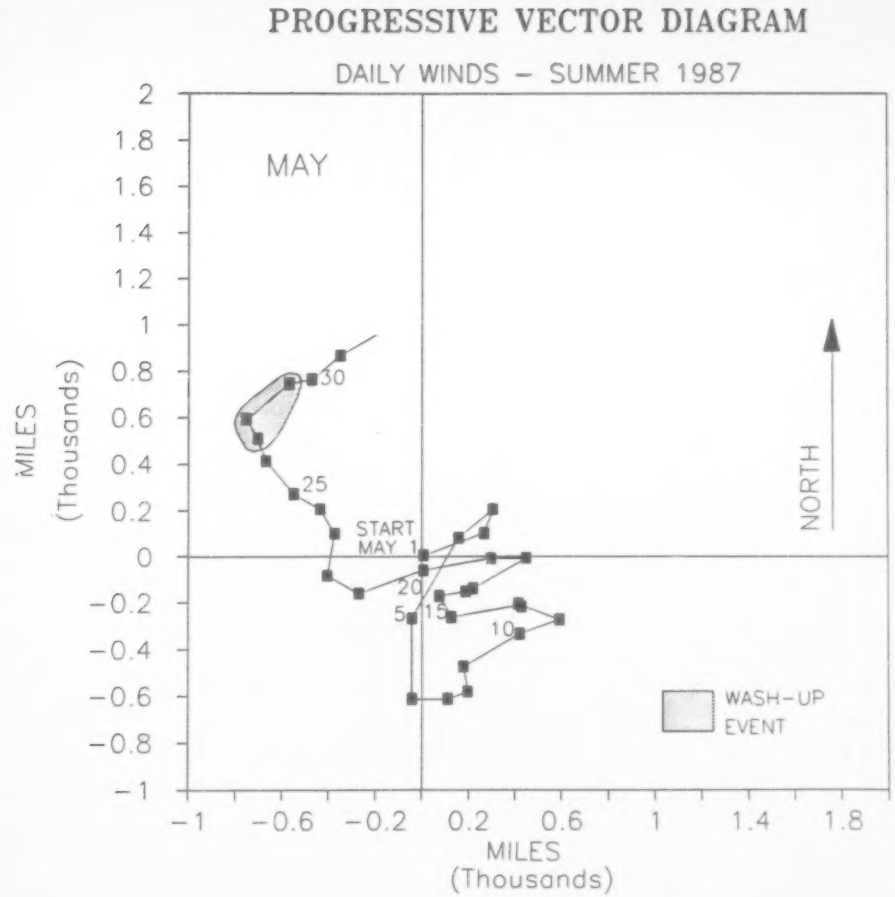

PROGRESSIVE VECTOR DIAGRAM
DAILY WINDS – SUMMER 1987
MAY
MILES (Thousands)
MILES (Thousands)
NORTH
START MAY 1
5
10
15
20
25
30
WASH-UP EVENT
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
−1
−0.6
−0.2
0.2
0.6
1
1.4
1.8

Figure 6

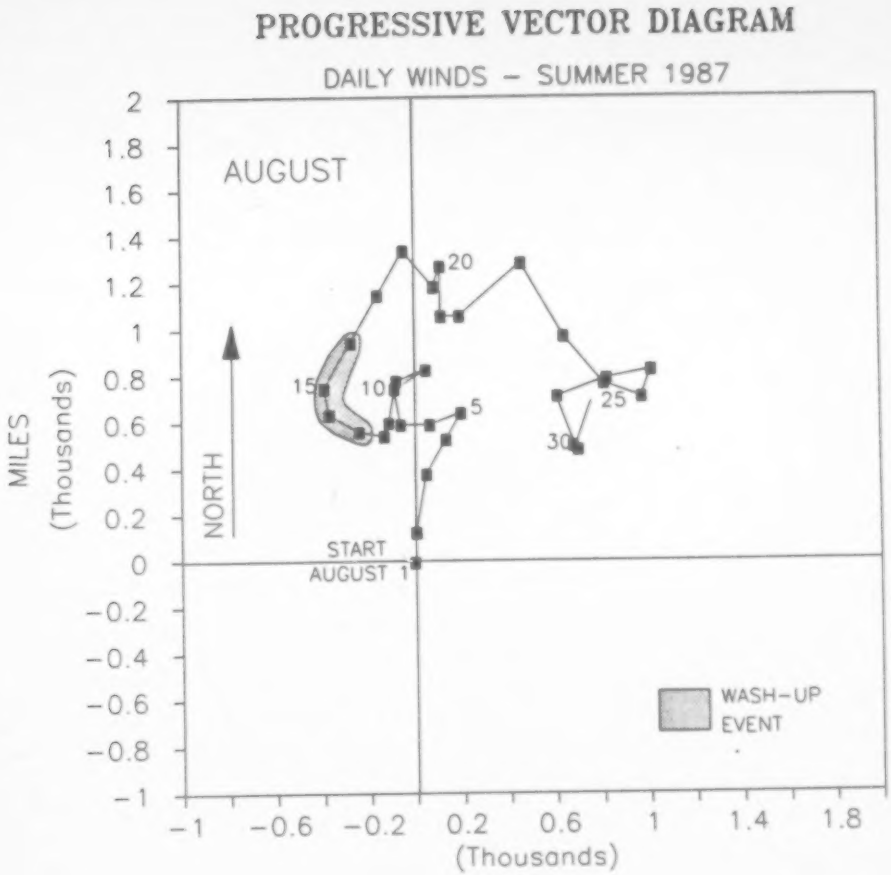

PROGRESSIVE VECTOR DIAGRAM
DAILY WINDS – SUMMER 1987
AUGUST
NORTH
START
AUGUST 1
WASH–UP
EVENT
MILES
(Thousands)
(Thousands)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
−1
−0.6
−0.2
0.2
0.6
1
1.4
1.8
5
10
15
20
25
30

Figure 7

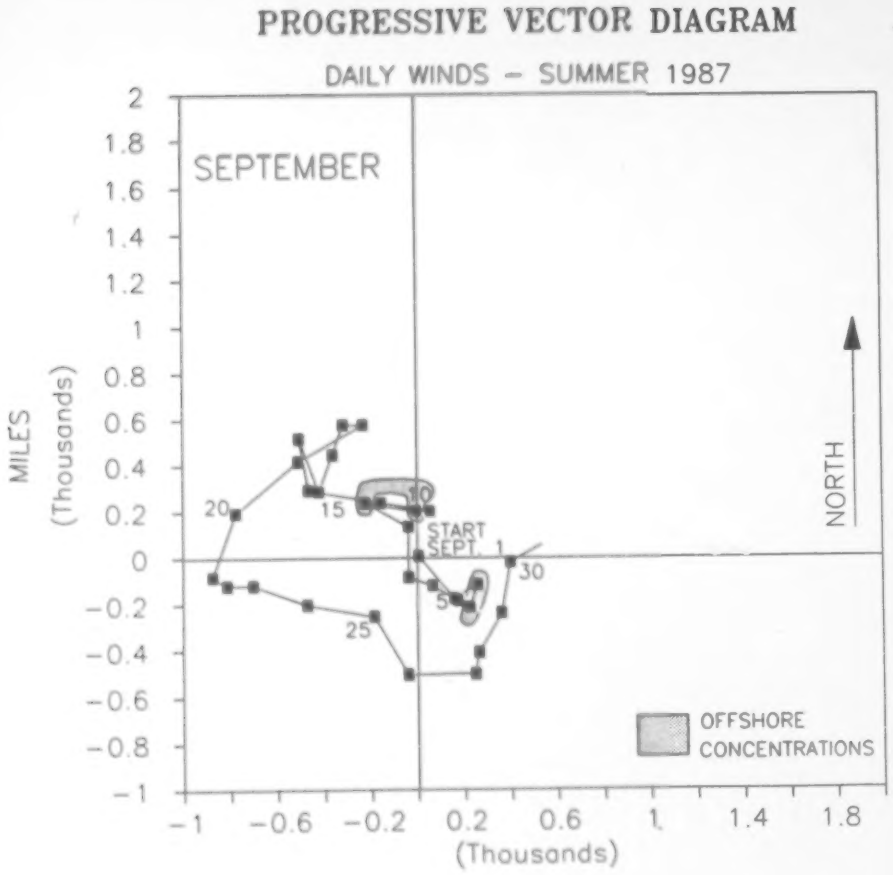

PROGRESSIVE VECTOR DIAGRAM
DAILY WINDS – SUMMER 1987
SEPTEMBER
MILES
(Thousands)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
−1
−0.6
−0.2
0.2
0.6
1
1.4
1.8
(Thousands)
NORTH
START
SEPT. 1
10
15
20
25
30
5
OFFSHORE
CONCENTRATIONS

Figure 8

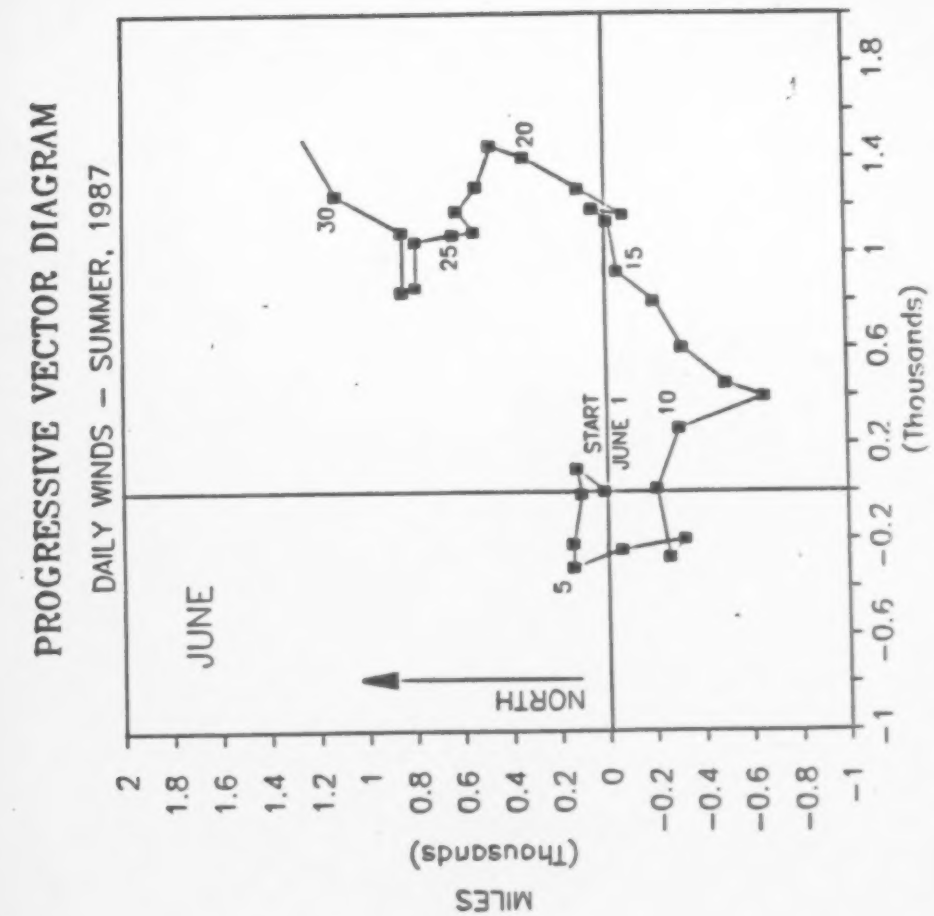

PROGRESSIVE VECTOR DIAGRAM
DAILY WINDS – SUMMER, 1987
JUNE
NORTH
START
JUNE 1
5
10
15
20
25
30
MILES
(Thousands)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
-1
-0.6
-0.2
0.2
0.6
1
1.4
1.8

Figure 9

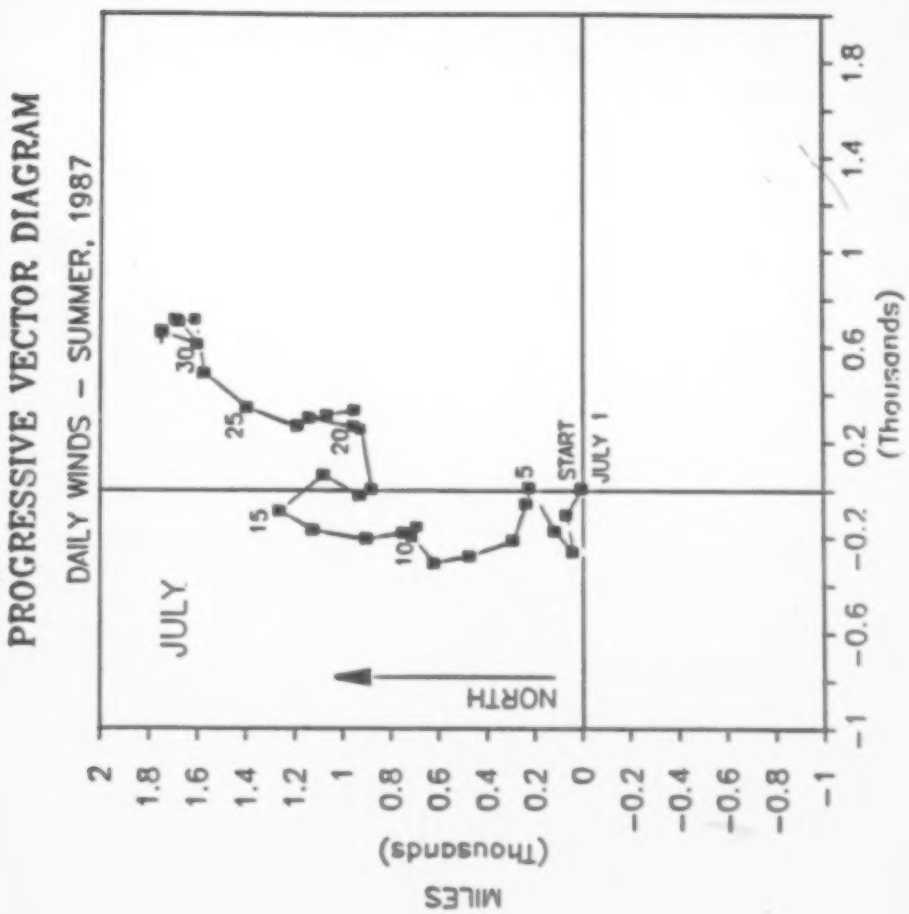

PROGRESSIVE VECTOR DIAGRAM
DAILY WINDS – SUMMER, 1987
JULY
NORTH
START
JULY 1
5
10
15
20
25
30
MILES
(Thousands)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
-1
-0.6
-0.2
0.2
0.6
1
1.4
1.8
(Thousands)

Figure 10

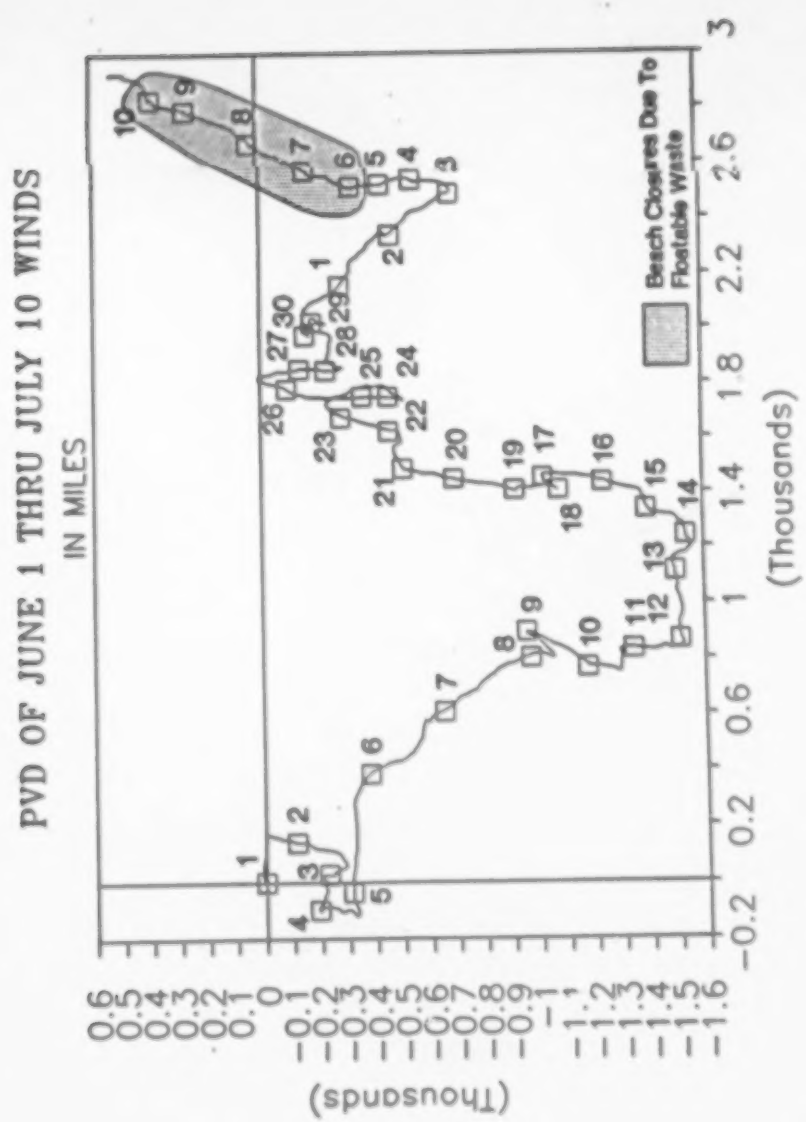
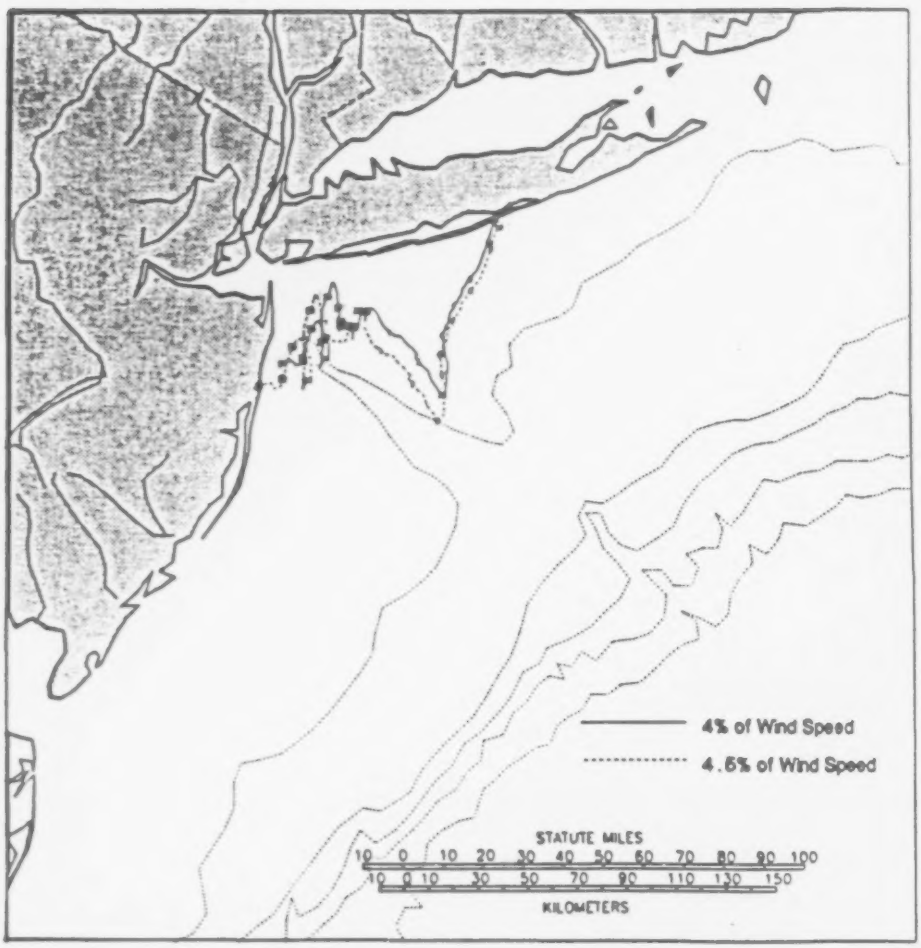

PVD OF JUNE 1 THRU JULY 10 WINDS
IN MILES
Beach Closures Due To Floatable Waste
(Thousands)
(Thousands)

Figure 11



A floatable that entered the Bight on or about the end of June might have followed the above path. Anything north of this path would have landed on Long Island beaches.

Figure 12

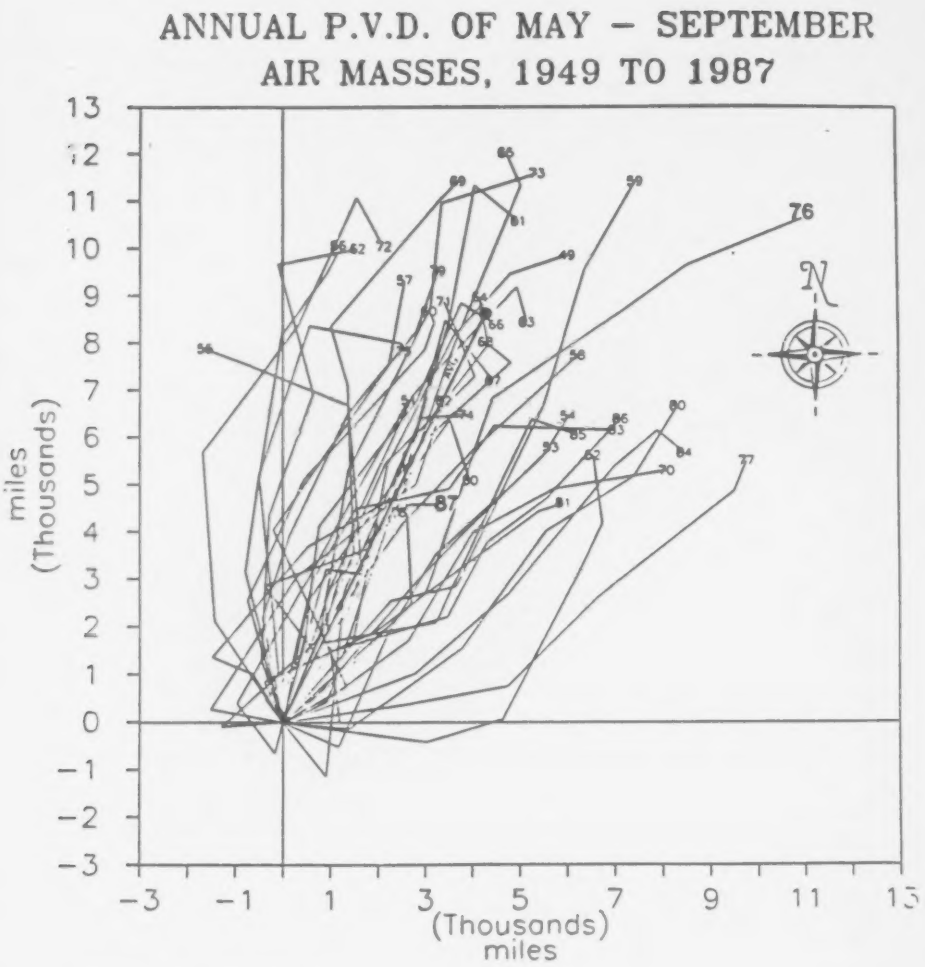

ANNUAL P.V.D. OF MAY – SEPTEMBER
AIR MASSES, 1949 TO 1987
13
12
11
10
9
8
7
6
5
4
3
2
1
0
−1
−2
−3
miles
(Thousands)
−3
−1
1
3
5
7
9
11
13
(Thousands)
miles
N
76

Figure 13

ANNUAL P.V.D. OF JUNE– AUGUST AIR MASSES, 1949 TO 1987

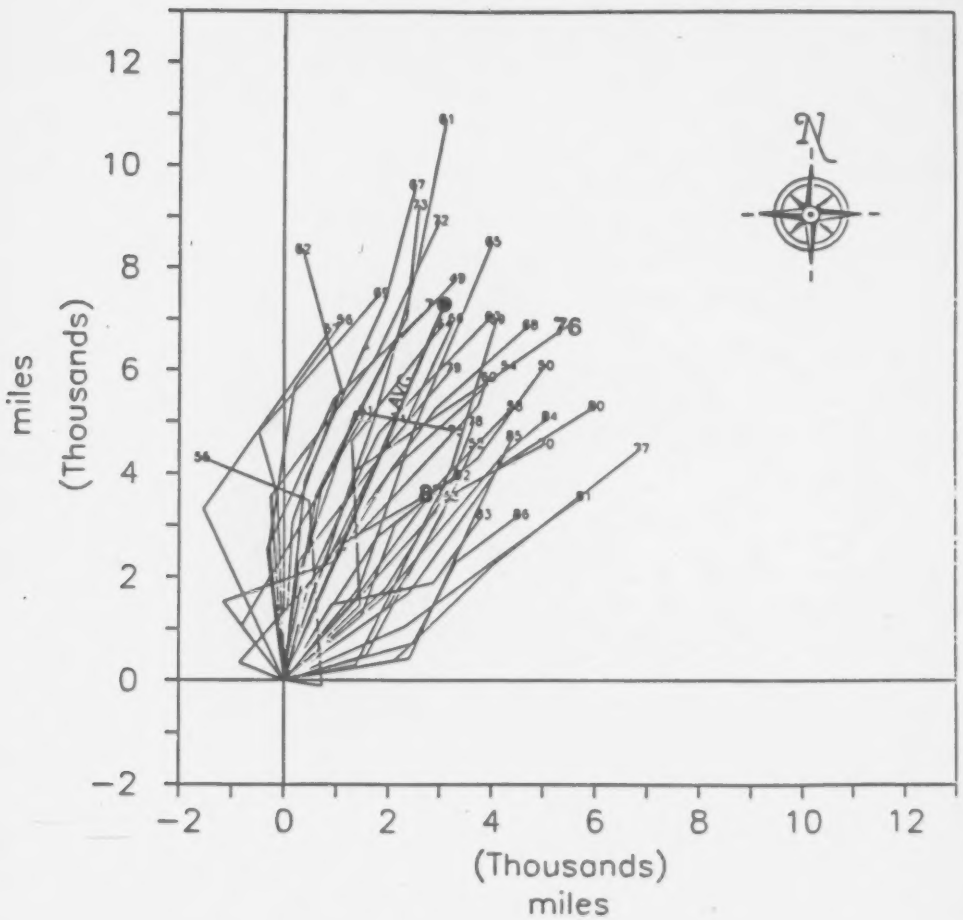
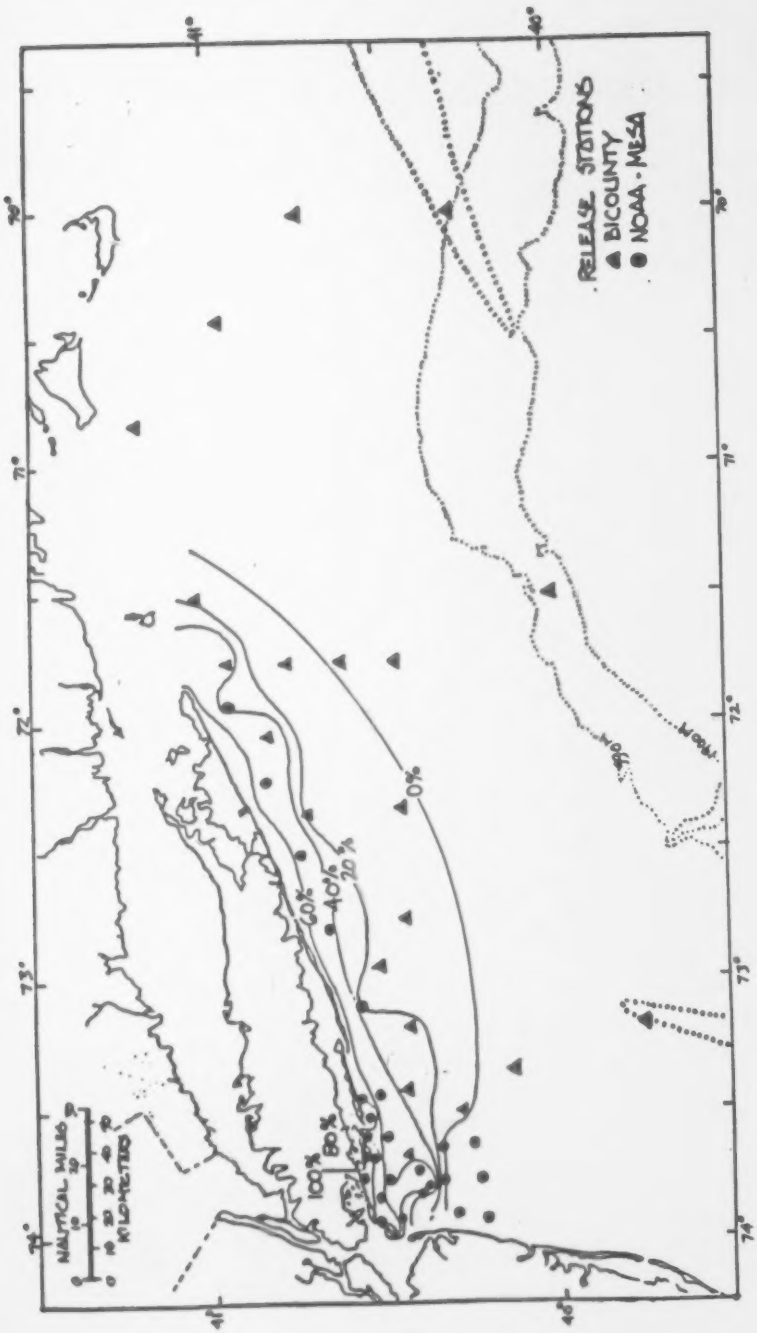


Figure 14


RELEASE STATIONS
▲ BICOUNTY
● NOAA - MESA
0%
20%
40%
60%
80%
100%
NAUTICAL MILES
KILOMETERS

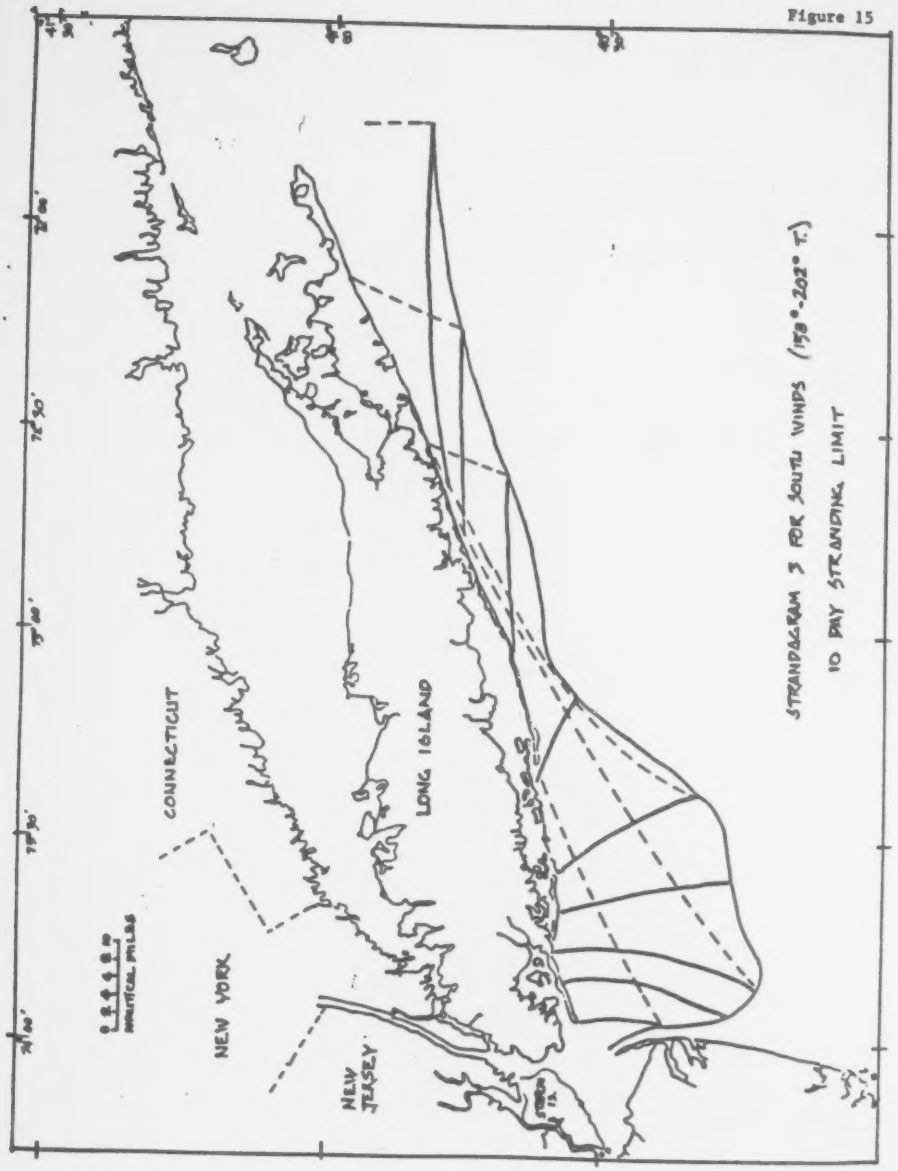

CONNECTICUT
NEW YORK
NEW JERSEY
LONG ISLAND
STRANDDIAGRAM 3 FOR SOUTH WINDS (158°-202° T.)
10 DAY STRANDING LIMIT

Figure 15

Figure 16

CONNECTICUT
NEW YORK
LONG ISLAND
NEW JERSEY
NAUTICAL MILES
STRANDDIAGRAM + FOR SOUTHWEST WINDS (203°-247° T.)
10 DAY STRANDING LIMIT

Figure 17

PROGRESSIVE VECTOR DIAGRAM
DAILY WINDS, DURING MAJOR WASH-UP EVENTS
JUNE 76
JULY 88
AUGUST 87
MILES
(Thousands)
MILES
(Thousands)

THE REGIONAL BEACH CRISIS

Report of a Meeting

Sponsored by

The Long Island Association

and

The Marine Sciences Research Center's

Waste Management Institute

on

4 August 1988

J.R. Schubel
R.L. Swanson
J.L. Larocca

August 24, 1988

Introduction

On 4 August 1988, the Long Island Association (LIA) and the Waste Management Institute (WMI) of the State University of New York at Stony Brook's Marine Sciences Research Center sponsored a meeting on the regional beach crisis. The emphasis of the meeting was on floatables and not on bacterial contamination. The meeting brought together representatives of most of the governmental units at all levels who have some responsibility for the monitoring and control of floatables in the marine environment. This report contains a brief overview of our assessment of some of the major findings and recommendations from the day's discussion. **The participants have <u>not</u> had an opportunity to review these findings and recommendations.**

The specific purpose of the forum was to share information and to clarify the roles of the various concerned governmental agencies. Discussion centered around:

1. The nature and extent of the floatable beach pollution problem and its probable causes.

2. The types of sampling programs being undertaken and the mechanisms for synthesizing and interpreting data, and

3. The mechanisms for sharing data and information and how these mechanisms might be improved.

The agenda is included as Appendix A; the list of those who made formal statements as Appendix B; and the list of attendees as Appendix C.

At the beginning of the session of technical presentations, J.R. Schubel stated that some of the most important questions were

- What are the causes of beach contamination?

- What's different this year?

- What are sources of different kinds of floatables?

  ...sewage-related wastes
  ...medical wastes
  ...drug paraphernalia
  ...plastics
  ...other

- What is the probability of recurrence of the problem?

- How can we decrease the probability of recurrence?

It was acknowledged that these are the questions that we ultimately must answer. For this particular forum, the speakers were asked to concentrate their remarks on assessing whether or not the right things are being done to get answers to these questions and, if not, what programmatic changes should be made.

Some Major Findings

- Beaches and coastal environments are among Long Island's, New York City's, New Jersey's and Connecticut's most valuable natural resources.

- The greatest threats and damage from this summer's beach closings have been to the economy. The perceived threats to human health have been far greater than actual threats.

- The total amount of floatables in our coastal waters is probably increasing, primarily because of the increase of plastics. However, the total inventory this year is probably not significantly different from last year. What is different this year is the anomalous signature of medical wastes and drug paraphernalia.

- Sewage-related floatables probably have decreased in recent years as a consequence of upgrading treatment plants in New York City.

- The amount of floatable medical wastes and drug paraphernalia stranded on our beaches has increased.

- Some of the syringes found on beaches are probably left there by drug abusers. They may get floated by high tides and waves and redistributed.

- Because of the consciousness and fear of AIDS, the occurrence of even small amounts of medical wastes and drug paraphernalia in the environment causes alarm and draws attention in a dramatic way to a larger, chronic problem -- floatables.

- There is no single source of floatables that end up on our beaches. There are many.

- Floatables are ubiquitous in the New York Bight.

- At any given time, there are a large number of floatable items in the New York Bight. Although their density (number/area) may be small, the total number of items is large because the area is large.

- The primary sources of these floatables are combined sewer outfalls (CSO), poor municial solid waste disposal practices, commercial and recreational boats, and outflows from bays and estuaries.

- Ocean disposal of sewage sludge at the 106 nautical mile site is not a contributor to the floatable problem.

- This summer's meteorological and oceanographic conditions conspired to aggravate the floatables problem.

- Whenever we have prolonged periods of persistent southerly winds, waters in the New York Bight are driven toward Long Island shores and with it floatables in the water. This summer has been characterized by prolonged periods of persistent southerly winds.

- Heavy rains increase the addition of floatables to the ocean from New York City and the back bays of New York and New Jersey. When rainfall intensity exceeds a few tenths of an inch for an hour or more, New York City treatment plants must bypass sewage and storm water runoff directly to harbor waters without treatment. This is a direct result of New York City's combined sewer-storm drain system.

- New York City's combined storm-sewer drain system contributes significant amounts of floatables to the marine environment, particularly during and immediately following rainfall events. Steps should be taken to improve effectiveness in keeping floatables out of storm drains and in intercepting those that do enter before they are released to the marine environment.

- July was one of the wettest July's on record, with most of the rainfall coming in at the last 10 days of the month.

- Aggressive pollution abatement programs are necessary, but not sufficient. Individual and institutional behavioral patterns are responsible for a significant portion of the floatable problem.

- As a society, we must identify suitable end points for each class of waste we produce and be meticulous in ensuring that wastes get from source to final disposal site with minimal loss of material.

Some Major Recommendations

- Continue to improve the processes of removing litter and floatable debris from streets and other paved areas served by combined sewer systems.

- Improve solid waste handling practices at transfer stations and during transport to landfills to reduce the volume of material escaping to estuarine and marine waters.

- There should be standard criteria and procedures for closing and reopening beaches as a result of stranding of floatables.

- We need a strict manifest system for all medical wastes, not just those from hospitals. It also needs to cover doctors' offices, clinics, drug treatment centers, nursing homes, veterinarians' offices and other small generators of medical wastes.

- Society must develop and implement effective strategies for dealing with every major class of waste. The strategies must be based upon the full assessment of alternatives. They must provide appropriate protection of human health, the environment and its living resources, and they must be economically affordable.

- Unless cost-effective disposal options can be developed, we should expect to see an increase in illegal disposal, particularly of medical wastes. More stringent laws and manifest systems can reduce the violations.

- One strategy that should be implemented immediately is rapid and thorough removal of floatables from beaches once they have been spotted. This should significantly reduce beach closures from floatables.

- There is a growing consenus amongst public health officials that floatable waste (including medical waste) is more a public safety problem than a public health problem. In this regard, the floatable problem has been blown out of proportion.

- O A more coordinated and consistent data collection procedure should be established in order to effectively assess the type and quantity of wastes washing ashore. This is required in order to properly target sources requiring remedial action.

- O Unless decisive steps are taken to control sources of floatables, we should expect to see a recurrence of this summer's events in future summers.

Appendix A

THE REGIONAL BEACH CRISIS
A Sharing of Ideas

Co-Sponsored by
the Long Island Association
and
Stony Brook's Marine Sciences Research Center

Royce Carlin Hotel
4 August 1988
8:30 a.m. - Noon

AGENDA

I. **Welcome and Introductions**

James L. Larocca, President, Long Island Association

II. **Introductory Remarks**

Nassau County Executive Thomas Gulotta

Suffolk County Executive Patrick Halpin

III. **Meeting Purpose and Format**

J.R. Schubel, Provost of SUNY Stony Brook and Dean and Director of the Marine Sciences Research Center

(1) What is the problem and what are the probable causes?

(2) What sampling programs are being conducted? What mechanisms are being used to synthesize the data, to interpret them, to transform them into information?

(3) Are the mechanisms for data sharing, information, generation and transfer adequate? If not, how can they be improved?

(4) Is the aggregate of programs accomplishing the appropriate objectives and goals? If not, what modifications should be made?

(5) Is coordination and cooperation among institutions as effective as it should be? If not, what changes would improve things?

IV. **Brief Presentations** (maximum of 8 minutes each)

U.S. Environmental Protection Agency

New York State Department of Environmental Conservation

New York City Department of Environmental Protection

New Jersey Department of Environmental Conservation

Nassau County Department of Health

Suffolk County Department of Health

Stony Brook's Waste Management Institute

Others

V. **Discussion**

VI. **Some Additional Observations: An Opportunity for Other Regional Leaders to Share Their Views**

VII. **Conclusion: Where Do We Go From Here?**

Appendix B

Presenters

Dr. Robert Abel, President
New Jersey Marine Sciences Consortium
(Statement submitted by him was read by J.R. Schubel)

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Stony Brook, New York 11794

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Angelika Forndran
New York City Department of Environmental Protection
Bureau of Waste Water Treatment
Wards Island
New York, New York 10035

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Washington, D.C. 20510

Paul Molinari, Deputy Director
Water Management
U.S. Environmental Protection Agency
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26 Federal Plaza
New York, New York 10278

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Suffolk County Department of Health Services
Riverhead County Center
Riverhead, New York 11901

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5th Floor
Mineola, New York 11501

John Rowell
New York City Department of Sanitation
125 Worth Street
New York, New York 10013

Curt Stanford
Subcommittee on Natural Resources, Agricultural
Research and Environment
H2-388 Annex 2
Washington, D.C. 20515-6303

R. Lawrence Swanson, Director
Waste Management Institute
Marine Sciences Research Center
State University of New York
Stony Brook, New York 11794-5000

Robert Wasp
Westchester County Department of Health
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White Plains, New York 10601

Appendix C

Participants

Dr. Robert Abel, President
New Jersey Marine Sciences Consortium
(Statement submitted by him was read by J.R. Schubel)

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Hauppauge, New York 11788

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Garden City, New York 11530

Rose Hanson
Assemblyman Dan Frisa's Office
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Westbury, New York 11590

Matthew Hickerson
Congressman Mrazek's Office
143 Main Street
Huntington, New York 11743

Assemblyman Earlene Hill
148 Greenwich Street
Hempstead, New York 11550

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LIA
LONG ISLAND ASSOCIATION

HOUSE OF REPRESENTATIVES SUB-COMMITTEE ON

FISHERIES AND WILDLIFE CONSERVATION AND THE ENVIRONMENT

MARINE POLLUTION AND ITS EFFECTS ON OUR BEACHES

TESTIMONY OF THE

LONG ISLAND ASSOCIATION

September 6, 1988
Jones Beach
New York

The Long Island Association, the region's largest business and civic organization, representing companies which employ over 400,000 employees in Nassau and Suffolk Counties, greatly appreciates this opportunity to testify before the House Subcommittee on Fisheries and Wildlife Conservation and the Environment on an issue of great importance to Long Island and the entire country, marine pollution and its effects upon our coastal beaches.

Long Island is blessed with some of the most beautiful beaches in the world, beaches which provide both economic and environmental benefits to us all. In fact, to many of us faced with high energy rates, crowded highways, tremendous housing costs and some of the highest taxes in the country, our beautiful beaches are one of the major reasons for staying on Long Island. Our beaches are what makes Long Island, Long Island, and anything which is damaged in anyway must be countered quickly and efficiently.

continuing discovery of various forms of wastes on beaches and shorelines has caused both an environmental and economic disaster for Long Island's businesses. During this entire summer period, while not one person has gotten sick or contacted any disease as a result of the wash up of wastes, much of the Long Island economy which is dependent upon our shorelines has been devastated. Many of our hotels, motels, restaurants, and fisheries have seen decline by as much as 50% this summer as a result of the tremendous attention which this issue has received. Even though the New York State Department of Health recently sent out a special letter informing everyone that Long Island fish were perfectly safe to eat, sales of fish from Long Island's waters were off as much as 75% in some restaurants and stores.

For these businesses, many of which make upwards of 1/3 to 1/2 or more of

their entire yearly revenues during the summer season, this summer has been a disaster, which may not be very quickly overcome. Beaches in areas such as the Town of East Hampton, which were never effected by the wash up of waste, have nevertheless had their attendance significantly reduced by the crisis. While the facts may be that the total inventory of floatables this summer is not significantly different than last year, the unfortunate and erronious perception is that all of our beaches were closed, our food poisoned and Long Island a very bad place to visit this summer. All of this, while untrue, has been devastating for the Long Island economy.

Clearly, all levels of government have a responsibility to ensure that this type of economic and environmental devastation must be stopped, and stopped now, before any additional damage is done to the economy and spirit of Long Island. As you know, just last month, the Long Island Association in conjunction with Marine Sciences Research Center at the State University of New York at Stony ... emergency conference on the issue of marine pollution. The nference brought together over 100 representatives of all of the federal, state and local health and environmental protection agencies from Long Island, New York City, Westchester and New Jersey, all of whom are trying to deal with this problem. At the meeting it was clear that there is no one cause of the pollution and there is no one solution. Only through a multi-faceted approach, including increased penalties, new regulations on the distribution of such wastes and government assistance in aiding the business community in creating a healthy and safe disposal system, can we have any hope of solving this problem. We have brought additional copies of the report which outlines all of the findings and issues a series of recommendations.

The LIA is very pleased that this House Sub-Committee has had the

opportunity to come to Long Island to see for yourselves our beautiful beaches and shoreline and to hopefully understand how precious they are to all of us on Long Island. We are very hopeful that this committee hearing will allow the federal government to take the additional actions necessary to curtail this problem. Failure to solve it will only result in a continuing blot on our economic and environmental landscape.

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September 9, 1988

STATEMENT OF ENVIRONMENTALIST MORRIS H. KRAMER TO THE HOUSE SUBCOMMITTEE ON FISHERIES AND WILDLIFE CONSERVATION AND THE ENVIRONMENT CONCERNING THIS SUMMER'S MEDICAL AND SEWAGE WASTE POLLUTION PROBLEMS AFFECTING AREA BEACHES IN SEVERAL STATES AND PROPOSALS TO ALLEVIATE THE PROBLEM BY SUMMER 1989.

It is obvious that no one has a remedy to prevent this Summer's problems of medical wastes and sewage related wastes that impacted area beaches from recurring in Summer 1989.

The following proposal, if adopted early, can alleviate a substantial portion of the problem next Spring and Summer. That something will actually be done about the problem should help to assuage somewhat the public fears next year.

My proposal will be followed by an analysis of some items that I do not believe have been adequately discussed, reports about about what happened to some local beaches this Summer, and certain climatic and oceanic factors. Additional proposals will be offered at the end of this statement.

PROPOSAL: Starting March 1989, and on a regularly scheduled continuing basis thereafter, New York City should systematically flood selected areas of its storm sewer system, possibly with river water. There may be some additional options such as augmenting rainfall and melting snow at certain times.

This will wash some materials into the regular sewer system where it will be processed. The remainder will wash into Rivers surrounding the City. Skimmers and skimmer boats should be in place by the designated combined storm sewer outfalls to retrieve as much floatables as possible.

Note: Some material entering the rivers will be submerged or semi-submerged and not become floatable until they reach 'tidal lines.' It is possible that potentially toxic floatable oil and greaseballs that are formed inside the storm sewers may initially remain submerged for several hundred yards upon exiting the CSOs'. Suggestions are contained in this proposal to handle this situation.

Assume for the moment, however, that floatable oil/grease balls are formed, wash into the Rivers and thence into the Ocean. It is better this happens in the Spring than in Summer for several key reasons. They will become "old," turn grayish white (resembling dirty styrofoam in many instances) and lose their

toxicity before the Summer beach and bathing season begins and also before major fish species migrate into this area. They will become just another piece of pollution that is part of the normal cleanup every May and June before bathing beaches open for the Summer season.

Additionally, skimmers and skimmer boats should be continually in place and continually operating in New York Harbor to retrieve "slicks" of floatables from all possible sources. A key area, for example, would be the Narrows near the Verrazano Bridge which serves as a confluence for most of the outflow from New York City and some portions of New Jersey by the Hudson River.

Note: The annual Spring runoff of the Hudson River would occur at the same time and the skimmers in the Narrows would serve the dual purpose of retrieving upstate floatables also.

In this manner, we are dealing with the problem earlier in the year. Secondly, in the event of a heavy June, July or August rain, there should be less of a build up, thus less pollution (floatables) resulting from a storm.

Crack filled neighborhoods, the sources of many thousands of crack vials and many of the hypodermic syringes washing up on beaches should receive early and special attention. New York City Sanitation Department water trucks and fire hydrants can wash the streets so the items will float into the sewers, where it will be processed. Simultaneously, the sewers should be flooded so these items can be retrieved by the skimmers and skimmer boats. This process could alleviate much of the public's fears.

Note: The so-called "smartest" way for someone to illegally dump hypodermic syringes at this time, is to dump them in the sewers, so they will automatically be blamed on addicts if the needles are eventually found. This writer believes that this is already happening because some of the needles that he has retrieved on incoming beach tides have been bent, to prevent reuse, indicating they had been handled by medically related personnel.

The skimmers and skimmer boats can also be used at times when and where submerged materials become floatable at tidal lines resulting from upwellings. By continually plying the Harbor, etc., they can be used when items fall off garbage barges, etc., (reportedly, a ton of garbage can blow off a barge on a windy day), and also serve to back up the skimming operations at the Fresh Kills landfill in case of an emergency.

The skimmer boats should be capable of entering ocean waters in the event a large slick of floatble garbage escapes into the Ocean.

<u>Earlier Detection of Medical Wastes</u>: Beginning this proposal in March may lead to earlier detection of medical wastes which can lead to getting control of the problem sooner and possible apprehension of the offenders.

Operation and Administration: New York City should not have any role in off land activities regarding this proposal. The majority of their skimmer boats have been Non-operational at times according to media reports. Similarly, for example, they have had less than 50% of their ambulances operational at times. Thus, this extra burden should not be placed on New York City.

Nor, is a new Agency needed to handle this problem. There are two existing Agencies that properly funded and authorized can operate and administer this proposal. They are the Interstate Sanitation Commission which I believe has broad powers that it does not exercise, and the Port Authority of New York/New Jersey. The latter has proved is operational and administrative ability over the years.

Funding: New York State Governor Mario Cuomo and New Jersey State Governor Thomas Kean should prevail on the Port Authority of New York and New Jersey to purchase the skimmer boats and skimmers with the Authority's own funds. This can start the process sooner so the boats can be available by next March.

Additionally, the States of New York and New Jersey, the City of New York and the Federal Government (Federal beaches have been impacted) should each fund 25% of the costs of operation and administration.

Proposal Summary: Pre-season flushing of sewage outfalls has been a long standing practice in some small coastal communities as a method to prevent summer pollution.

Overall, this is the best, easiest to implement and quickest temporary and partial solution to the CSO, etc., problem at this time, although there may be some negative aspects involved, especially if it is considered as a permanent cure, and thus is used to delay or further prevent corrective activities.

This proposal seems even more relevant in light of the National Resources Defense Council's statement submitted to this Hearing concerning the status of New York City's sewer system and certain other items that may relate to the toxicity of floatable oil\greasballs.

Floatable oil/greasballs: A brief history is necessary. These items had been washing ashore for many years without any controversy. The common assumption had been that they were the result of oil being discharged from oil tankers.

In December 1973, this writer, the late environmentalist Rod Van di Vert and Professor William H. Harris disclosed that sewage sludge from the then sewage sludge dumpsite 10 nautical miles south of Atlantic Beach, Long Island was approaching Long Island.

This created public concern.

Several months later, a large amount of these floatable oil/greasballs washed ashore. The U.S. Environmental Protection Agency investigated and reported very high coliform counts (in the millions) inside these balls. While coliform is only an indicator bacteria, its presence in high numbers could also mean that other bacteria that might be harmful might also be present as well as viruses, etc.

This writer then began asking the U.S. E.P.A. to issue a precautionary health warning about these balls which E.P.A. steadfastly refused to do even though they repeatedly agreed that the balls could be toxic if accidentally ingested by a small child thinking they were candy, or someone with a cut foot, for example, stepping on such a ball, and getting it into his or her bloodstream.

This was amply described in my statement at the subcommittee Hearing on July 24, 1976, beginning on Page 228. Indeed, the only time such a health warning was eventually issued was after the beaches were closed primarily due to these oil\greaseballs in the Summer of 1976.

It's important to note that these same type floatable oil\greaseballs impacted some Long Island beaches every year in the 1980s and especially this Summer. The Town of Hempstead beach at Lido/Point Lookout was inundated by these balls to such a degree that the event of 1976 "seemed pristine."

Thus, if certain floatable oil\greaseballs were potentially toxic in the 1970's, they are still potentially toxic. And, they present more of a potential health problem than hypodermic syringes and other medical wastes washing ashore on area beaches.

(This writer is unaware of anyone becoming ill from such an oil\greaseball. He did write an article in a local newspaper in 1980, however, about a dog that bit into such a ball and became deathly sick. The dog was rushed to an animal hospital, had its' stomach pumped and survived.)

<u>Are these floatable oil\greaseballs potentially more toxic today than in the 1970s?</u>

Senior scientist Lisa Speer, Natural Resources Defense Council's statement to this Hearing mentions in Recommendation number 4, page 6 "...At present, untreated blood, blood products, ground-up body parts and organs, and other infectious liquid or semi-liquid hospital waste can legally be disposed of into the sewers.* Because these and other wastes depend on secondary treatment to be properly treated, they should not be disposed of in sewers when combined sewers are overflowing, or when secondary sewage treatment is not available." *This footnote noted that this type of "discharge is recommended by both New York State and EPA."

Ms. Speer's, NRDC statement said that many New York City sewer plants do not provide secondary treatment.

The best information that we have to date is that it takes at minimum, one single count coliform bacteria, a plastic item such as a cigarette filter tip, tampon, crack vial, etc, and either oil or grease to form a floatable oil or greaseball which then incubates the coliform so the bacterial level grows astronomically. That these balls are actually formed in the storm sewers.

In today's age, we have had an astronomic increase in the numbers of seriously infected persons in New York City. We are legally dumping their infectious waste blood (I'm including hepatitis, but discounting AIDS) into the New York City sewer system where it is being insufficiently treated to a great extent. If any portion of this becomes part of a floatable oil\greaseball, is the potential toxicity greater than it was in the 1970s?

Accordingly, more research is necessary in this regard.

And, the basic health department warning should remain in place as a precaution. If there are many "Black" floatable oil/greaseballs, the beach should be closed as a precautionary measure. There is a debatable question as to how long a closure. And, also whether or not the surrounding waters may have high bacterial counts at times when there is a high presence of these balls.

It would appear that if there is a sweeping tide that it might be okay to open the beaches soon after impact and if there is no further indication of such balls washing ashore. But, if there is a tide that is nearly stagnant, washing straight in,* retreating and washing straight in again, it may be necessary to keep the beaches closed for a longer time period. Thus, it is a matter that should best be left to local authorities with appropriate guidance from higher level bodies.

* This was the case in Atlantic Beach, Long Island this Summer. An immense accumulation of sea weed, for example, impacted one area of beach and washed in an out of that same beach for practically the entire Summer. Normally, this is swept out and washes ashore on other beaches as much as two miles away. Substantial portions of plastic floatables washed ashore, then washed out with the outgoing tides and then returned to nearly the same exact spots this Summer. This writer continually experimented by tossing floatable debris back into the outgoing tides, only to find it back in the same place the following day.

<u>Some History of Medical Wastes on Long Island Beaches</u>: This writer, based upon his more than 35 years of experience, considers Atlantic Beach, Long Island located on the Westernmost portion of

Long Beach Island to be an indicator beach for pollution that may impact the rest of Long Beach Island and other areas of the South Shore of Long Island. This means that this area receives some of the pollutants first, and it then may impact other beaches and areas.

One reason may be that of the traditional summer south westerly winds that approach Long Island shores. Another is the proximity of New Jersey and what has been referred to in the past by N.O.A.A. MESA as a clockwise gyre in that spins oceanic water in in the direction of Long Beach Island. Third, is the proximity to New York City. Basically, anything that pollutes New York Harbor ends up on our beaches. This ranges from oil spills, ship accidents, to every day pollutants. There is a long history to confirm these statements.

This writer began noticing a very small amount of hypodermic needles on the beaches several years ago.

In Summer 1987, one local beach was closed as a precaution because of medical waste washing ashore. This was also reported on television. There was no public reaction at all.

On July 3, 1988, a blood vial washed ashore in Atlantic Beach. It was not turned in to the proper authorities. Three days later, blood vials washed ashore in the Lido-Point Lookout area, some 8 or nine miles east of the first impact.

Medical wastes washed ashore when the beach was clean, and also when such waste was accompanied by N.Y.City pollution.

Medical wastes washed ashore in this area all Summer, up to and including the Hearing day. The event of August 29th will be discussed separately. The writer did not display what had been found on September 5th, the day before the Hearing in order not to sensationalize the subject.

<u>Unusual wind and oceanic conditions Summer 1988:</u> The Ocean in June, July and the early part of August acted more like a March or April Ocean on Long Beach Island and especially so in the Atlantic Beach area. One, it was much colder than normal for this time of year. The writer, for example, ususally takes a substantial swim during the Memorial Day Weekend. It was too cold this year. On July 1st, one could hardly stand in the water without their legs becoming painfully numb within a short time.

There was a tremendous amount of beach sand accretion, perhaps the most this writer has ever seen in Atlantic Beach. This usually happens in the Spring.

More balloons came ashore this year than in all previous years combined. These have now become floatables. Those with long strings continually became entwined in the beach lines extending into the ocean to guide bathers.

More lobster pot flags came ashore than at any time in this

writer's memory. There is something of significance here. The lobster pots are usually 5-7 miles south of this area. Under normal conditions, the would, usually earlier in the year, float ashore evenly dispersed along the entire 10 mile long Long Beach Island. The best informed guess is that over 95% came ashore in Atlantic Beach this summer, including about 15 on the Labor Day weekend. The writer checked with knowledgeable people in other Long Beach Island areas and they had very few such flags on their beaches this Summer. One flag from 22 miles South of Jones Beach washed ashore in Atlantic Beach.

A part of this may be attributable to what the writer terms as "straight" southerly winds which will be discussed further. This can be very important in dsicussing what did and did not happen this Summer, and in particular how it related to one major event.

There was a very heavy rainfall in New York City toward the end of July. Newsday, subsequently headlined a nineteen mile long slick of sewage related materials in the ocean.

That weekend, the writer stood on the beach with other interested parties as they wondered where the pollution would wash ashore. The winds seemed to be coming in on a "straight" southerly course. Subsequently, in walking along the beach at the high tide line, he noticed hypodermic syringes washing ashore within thirty feet of the eastern side of jettys. The writer then predicted that the pollution would strike the Rockaways.

The Rockaways beaches were closed for at least 5 days due to a massive influx of sewage related pollution and medical wastes.

This is rather unusual in that the Rockaways usually do not receive the pollution because winds are traditionally south westerly and also because the large outflow from Jamaica Bay serves as a buffer as the pollution moves out of New York Harbor.

This writer believes that had there been more normative condtions, meaning that the pollucion would have been able to float further seaward and that there would have been south westerly winds instead of "straight" southerly winds, that this pollution would have impacted Jones Beach, Robert Moses State Park possibly Fire Island, and other Suffolk County beaches.

Subsequently, in Atlantic Beach, hundreds and hundreds of small plastic bags with the letter M washed ashore amidst the debris. They were Metropolitan Transit Authority token bags. They ovbiously came from New York City, although, admittedly some are sold on Long Island. Plastic floatables from New Jersey also washed ashore.

The writer had not seen certain of the floatables since the 1976 beach closings. They were coconuts, hundreds of tennis balls and rubber balls (one could find 25-50 such balls on a five hundred foot stretch of beach,) and softballs. There were many food items also.

Also, extremely high numbers of ball point pens, plastic disposable lighters and thousands of crack vials came ashore.

The "normal" plastic tampons, beverage cans and bottles, plastic bags of all sizes, cigarette filter, knives, spoons, forks, candy and potato chip packages, minipads, etc., also washed ashore. Black (meaning fresh, or recently formed) oil\greaseballs also came ashore, some of cantaloup size.

Several days later, a massive influx of larged size (basketball) black oil\greaseballs and other floatables washed ashore in the Lido Point Lookout area. The impact there was so immense that one seasoned observer said it made the 1976 incident "seemed pristine."

This writer believes that again under more normative conditions, this would have spread further east to Jones Beach, etc. The outlfow from Jones Inlet probably also served as an inhibiting factor in keeping the floatables at Long Beach Island.

The Events of Late August: Heavy rains engulfed New York City on Wednesday August 24th, 1988. This was followed by strong North winds (meaning flow South from New York Harbor). It was predicted that floatables from New York City storm sewers would impact some New Jersey beaches. At about the same time, or the following day, a large sized abandoned pier broke apart in Staten Island and pieces floated into New York Harbor. The New York Times noted that the U.S. Army Corps. of Engineers was attempting to retrieve floating pieces of this pier.

On Friday, or Saturday, radio reports indicated that some New Jersey beaches were impacted by the floatables. On Saturday and Sunday, large portions of the abandoned pier began landing in Atlantic Beach. A tremendous amount of smaller pieces of wood (much of it attributed to the pier) also washed ashore. A lot of crack vials washed ashore.

On Monday, August 29th, this writer was walking the beach front at the high tide line from the previous evening. This was 7:10AM. Someone at the incoming tide line beckoned him to come down and look at some shells. As he did, he noticed a hypodermic syringe on the incoming tide, and then another and another.

Practically every type of pollutant started coming ashore. There were 37 syringes, thousands of crack vials, 3 bound packets of papers from Hellenic Lines, Ltd. (some of the inside papers were still dry indicating their being in the ocean for only a short time), and assorted other pollutants such as automobile battery covers, tampons, blank pill bottles, car and truck tires, more wood from the abandoned Staten Island pier and everything else that is normally associated with New York City storm sewer runoff. Some normally expected pollutants were absent, such as

minipads, and there was no known way of contacting the appropriate people in New Jersey to discuss and compare their findings from a few days earlier.

An all important injectible dosette bottle with all the relevant information was also found, the second one this Summer. As of this writing, the proper authorities have not been able to trace its source of disposal.

Of importance that day, the water suddenly turned about 5 degrees colder, became more sweeping and no additional medical waste seemed to be coming ashore. Theoretically, absent water quality tests, the beaches could have been opened if not for the presence of so much wood in the waters which posed a safety threat to any potential swimmers.

The following day, while walking along the previous day's high tide line, one found another bound packet of Hellenic Lines papers, and the bottom of a New York City Police Department saw horse.

One should also note that for that entire week and the Labor Day weekend, Debris, medical or otherwise, washed ashore in this area. If the public had not already been turned off about going to the beaches because of the medical waste scare, these events surely would have done so.

<u>A Clean Beach Versus A Safe Beach</u>: Some suggest that as long as a beach is "safe" re: public health, it does not matter if the beach is dirty or unappetizing. This may be true to some degree. There are, however, some important questions. A beach littered with plastic is one thing, but, what about plastics in the bathing waters?

There are very large plastic garbage bags floating around in the ocean. A swimmer can accidentally become entangled in one and panic. This writer has actually experienced this feeling.

There is some feeling that by vigorously cleaning the high tide line, the public will be satisfied. This is also cited as a means of ridding beaches of medical wastes, especially hypodermic syringes.

The syringes, however, don't react the same way as many other floatables. While they are found at the absolute high tide line, they are also found at the absolute low tide line. This would also indicate that people are swimming in an ocean with hypodermic syringes.

Cleaning up at high tide every morning sounds like a great idea. High tide, however, is nearly an hour later every day. Thus, one can clean up first thing in the morning and miss the high tide with its resultant pollution.

An Unclean Versus An Unsightly Beach: The closer a beach to New York City, the dirtier it is likely to be. (There may be exceptions, such as the Rockaway beaches, as previously described.)

Thus, one can be at East Hampton and not see a single plastic item. The beach may be perfectly clean. At Atlantic Beach, on Long Beach Island, plastic items have become the norm. This is because of the over abundance of plastics already in the New York Bight and the what is now the perpetual out pouring of plastics from New York City.

Thus, depending upon the viewer, someone from East Hampton might be utterly shocked to see some plastics on the beach in Atlantic Beach, while a local resident might accept it as the status quo.

That was the situation at least until this Summer. Plastic floatables have washed ashore to a am overwhelming degree. Outgoing tides, for example, have left long strand lines the width of the beach littered with plastic items. One can stand in the Ocean and see plastics floating all over. One can also feel plastics at their toes, knees, hips, etc. A sight that one does not want to see, but unfortunately does, are waves that are breaking with many large plastic bags.

The writer believes that this unsightly mess is turning people away from the beach. As this spreads further eastward in coming years, it may have the same effect.

Swimming Related Illnesses: This is a most delicate and controversial subject. In the 1970s this writer researched and documented that a substantial number of lifeguards were becoming ill from swimming in the Ocean. That they no longer swam, unless there was a life saving emergency.

Newsday and the New York Times separately interviewed lifeguards and generally reported the same conclusions.

This is difficult to prove. How does one actually attribute and illness to the Ocean, etc. Did all the lifeguards drink from the same bottle as some officials alleged? How can one become sick when the coliform counts are so good?

This writer did not feel that there would be swimming related illnesses in 1988 for several reasons. The main reason was that he did not see people (especially lifeguards) swimming due to the medical waste scare and the early arrival of lions mane jellyfish that sting. Often times, the writer was the only swimmer in sight.

On several occasions, the writer felt a stinging sensation around his lips as he left the Ocean. He ignored this and kept it to himself. Subsequently, he met another swimmer who claimed

that he became ill from the ocean. Later, he heard from a highly respected lifeguard who felt that he became ill from the Ocean. Then, other lifeguards reported illnesses to him from a wide range of beaches. The writer then heard of swimmers who got the same sensation around their lips as he did and decided not to come to the beach anymore.

As stated previously, this is very dificult to prove. It also places lifeguards in a vulnerable position with their employers.

The writer chose to ignore this issue for many reasons.

But, he has some suggestions which will be included in his recommendations at the end of his statement.

Water Quality Tests: The present method for testing water quality, the coliform test, is inadequate for today's needs. This is because it takes 24 hours to obtain the results.

Example: A significant amount of storm sewer related pollution can impact a beach. Should it be closed or not? The coliform test can't provide the answer.

Additionally, pollution may impact a single beach and not touch adjacent beaches. How can we test to be sure, ane be sure soon enough.

RECOMMENDATIONS

1. New York State should raise the deposit on bottles and cans to a quarter (25 cents). This would cause less such items to wash up on beaches and end up in landfills. The extra funds should be designated for pollution abatement programs and to institute new programs. Plastic juice bottles, plastic motor oil containers and other such products should also require deposits.

2. New York State should encourage other States who have similar refund laws to raise their deposits to a quarter also.

3. New Jersey and other coastal State should pass bottle deposit legislation. Though New Jersey voters did not pass such a law recently, perhaps the last two Summers events may have some favorable impact. It's important to note that beverage cans from New Jersey impacted Long Island beaches this Summer.

4. Before the advent of plastic hypodermic syringes, doctors and medical facilities used glass syringes, sterilized and reused them. One understands the difficulites involved in returning to this practice. At home users of syringes, however, can buy sterilizers, use glass syringes repeatedly, and save money. They can use plastic disposable syringes when travelling. This would be a start in the proper direction.

5. There should be a move toward reusable cigarette lighters. While this would result in less pollution on beaches, it would also lessen the amount being put into landfills. This can be accommodated easily enough by making it a "fashion" statement.

6. A new water quality test is needed that can quickly measure water quality. This can help regain public confidence.

7. It would be best to sweep New York City streets prior to any flushing as proposed in this statement. New York City, however, has one third less street cleaning personnel than before due to budget constraints. The New York City Parks Department, however, in conjunction with the New York City Board of Education has a program whereby students work during the Easter Vacation and clean parks. This could, via careful planning, be expanded to include streets, and serve many useful purposes.

8. Though every Agency, organization and group worked to the best of their abilities this Summer, the beach monitoring system was severely inadequate in comparison to the monitoring set up in the 1970s. People who should have known, especially those with some background on the beaches, did not know what to look for, or how best to look for medical wastes. Consequently, a tremendous amount of medical waste was never reported, and more important a great amount was never even discovered. This writer deduces that from the medical waste that he turned in, controlled substances with company name, addresses, lot and identification numbers, etc., that a better monitoring system would have discovered more and perhaps the exact source(s) of illegal medical disposal.

Accordingly, the writer suggests that a monitoring system be established now that will be comparable to the 1970's system. The writer also notes that he is establishing a local beach monitoring network on his own which is an indication of what is currently lacking.

9. Swimming related illnesses: An independent confidential survey should be conducted of all Lifeguards who worked on Ocean beaches in New York and New Jersey this Summer. This writer would be willing to help design the survey. Basically, lifeguards should be able to respond anonymously to a respected non-governmental agency, etc. The survey should be initiated with cooperation from the various lifeguard associations in order to obtain a proper response. A similar survey should be conducted in other coastal States for comparative purposes. Perhaps we can then obtain a fuller picture of what did and did not happen this Summer. And, we can then conduct a proper survey next Summer. The writer suggests this method, because he knows that local authorities in properly performing their jobs, become so sensitive and concerned on these matters, that it backfires and scares lifeguards away from reporting swimming related illnesses, which

would be counter productive to public health in that lifeguards because of their positions may unfortunately be the prime and first source when it comes to discovering ocean related illnesses.

11. Treat adults like adults: One problem we have is that we mislead the public every Spring by telling them that the beach is perfect, when often times it is not. Then, when a problem occurs, the public overreacts and abandons the beach.

If, for example, we inform people that there is a large amount of wood in the bathing area and they should not swim, they will certainly understand and respect the matter even if they are unhappy about not being able to swim. But, we won't tell them that there are floatable oil/greaseballs in the water, because we fear the economic consequences.

But, if we tell people before a Summer begins that there is a chance that on a few days there will be some pollution and that they will be properly notified, they will be more understanding.

DECEIVING A CONGRESSIONAL SUBCOMMITTEE

This unpleasant subject has been saved for the end. It has never been publicly discussed to the best of this writer's knowledge. On July 24, 1976 and September 30, 1976 Joint Hearings of the Subcommittee on Fisheries and Wildlife Conservation and the Environment and the Subcommittee on Oceanography of the Committee on Merchant Marine and Fisheries were held in Hempstead, N.Y. and Washington, D.C. repsectively.

Two matters of prime concern were the floatable oil\greaseballs that closed Long Island beaches and the Anoxic (low dissolved oxygen) episode that resulted in a major oceanic fishkill over several thousand sqaure miles in the New York Bight

A serious inter-Agency research effort was launched to determine what factors contributed to and caused the fishkill.

During the Hearings, the subcommittee strongly questioned a seemingly conscious ignoring of law in that the U.S. Army Corps. of Engineers was continually dredging and dumping dredge spoils without appropriate surveillance by the U.S. Coast Guard and oversight by the U.S. Environmental Protection Agency. All three Agencies strongly defended their activities.

The Army Corps. of Engineers concealed from the Subcommittees that in May and June 1976 they had dredged part of New York Harbor on an emergency basis. Specifically, the Corps. of Engineers dredged seven feet of silt on the North and South sides of Peir 15 in the East River in order to let several large sailing ships dock at this site for the Operation Sail regatta.

This was not discussed in any of the the InterAgency research reports and it raises several important questions.

1. How much did the dumping of the silt contribute to the drop in the dissolved oxygen levels in the New York Bight that caused the massive oceanic fishkill?

2. What effects, if any, did this sudden change in the East River have on the floatable oil\greaseballs that subsequently closed so many miles of Long Island beaches?

By not revealing their sudden dumping, the U.S. Army Corps. of Engineers misled the other Federal Agencies who were researching the Anoxic episode. This skewered the research findings, hence, they mislead the public, local, State and Federal Legislative bodies.

The Army Corps. of Engineers deception of a Congressional committee questioning their practice which was contravening existing laws was to successfully conceal the truth so that Congress might not pass appropriate remedial legislation.

This writer discloses this problem, not simply to revise history and affix blame, but because our Legislative bodies should be fully informed regarding regarding these matters in their attempts to duly protect the Marine environment and public concerns.

RECOMMENDATIONS:

1. The subcommittee should direct the U.S. Corps. of Engineers to provide all information relating to their Operation Sail dredging and dumping in 1976 to the subcommittee and other Federal, State, and local Agencies as well as interested parties in order to determine if the research findings of the events of 1976 should be revised as a matter of record and that it may also serve as a guide for the future.

2. That the subcommittee become aware of this previous deception so that it may review current regulations to determine their adequacy and to be forewarned in future dealings with this Federal Agency.

3. That in light of the continually stressed condition of the New York Bight Apex that U.S. Army Corps. of Engineers dredging operations in this region be scrutinized more closely than previously.

4. That the U.S. Army Corps. of Engineers be ordered to redirect their dredging operations in New York City, New Jersey rivers and other bays and estuaries flowing into the Bight Apex, and including the Bight Apex so they are not performed during the months that are most sensitive and perhaps threatening to the marine environment and public concern and possible health. Specifically, they should not dredge from the time the Spring runoff begins until after the bathing season ends.

MORRIS H. KRAMER
ENVIRONMENTALIST
BACKGROUND

1. Was responsible for the discovery for reportedly the first time in history that some form of pollution was killing Horseshoe Crabs in an Ocean beach environment. This was a six or seven year effort. Newsday, Sep. 26, 1976.

2. Originated and coordinated the Sludge Approaching Long Island issue in conjunction with Dr. William H. Harris, the late Rod Van di Vert and Bonnie June Mellon. New York Times, December 11, 1973, Eyewitness News, etc. Coordinated follow up efforts also. Atlantic Monthly, April 1975.

3. Responsible for public disclosure of lifeguards becoming ill apparently from swimming in Atlantic Ocean. Newsday, New York Times, several TV stations. In the mid seventies, lost news paper clippings.

4. Have raised the issue of oil and grease balls (floatables) etc., since 1974. Badgered Agencies to accurately disclose potential health risks involved.

5. Appeared at public forums on these subjects, wide range of Federal, State, local agencies and other organizations. Proved certain Agencies to be wrong in some instances. Entered statements, etc.

6. Over a thirty year period, consistently monitored a stretch of beach as to pollution, etc. (The Atlantic-Long Beach area can be considered as an indicator beach for the rest of Long Island because of the proximity to New York City, closeness to the former Sewage Sludge dumpsite, dredge spoils, New Jersey sources of pollution, etc.

7. Provide input to scientists, experts in this field.

8. Extremely active in this year's problems on all fronts. Found huge supply of needles that closed Atlantic Beach beaches August 29th. Found other medical waste that I hope will lead to an indictment. Appear on talk shows. Addressing Civic Associaztions, etc., on this subject.

GROUP
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GROUP FOR THE SOUTH FORK

BEFORE THE

SUBCOMMITTEE ON FISHERIES AND WILDLIFE CONSERVATION

AND THE

ENVIRONMENT COMMITTEE ON MERCHANT MARINE AND FISHERIES

U.S. HOUSE OF REPRESENTATIVES

October 4, 1988

Oversight hearing on the recent closure of coastal areas
in New York, New Jersey and southern New England
due to medical wastes and sewage contamination,
Jones Beach, New York.

GROUP FOR THE SOUTH FORK

Group for the South Fork, a not-for-profit environmental protection organization, presents for the Subcommittee on Fisheries and Wildlife Conservation and the Environment Committee on Merchant Marine and Fisheries U.S. House of Representatives our position regarding the disposal of solid waste, including sewage sludge into the ocean. We recognize that the Subcommittee has focused its attention on the medical waste problem and many of the witnesses appearing before you addressed the details of that subject. However, though our comments are of a more general nature, we believe they are germane to the issue of marine pollution in general, of which medical waste is just a part.

On behalf of our membership, GSF voices its opposition to the continued dumping of sewage sludge, industrial wastes, contaminated dredged materials and medical wastes into our marine waters.

According to an article written by Allan Bakalian, entitled Regulation and Control of United States Ocean Dumping: A Decade of Progress, an Appraisal for the Future which appeared in the Harvard Environmental Law Review:

> Decades of deliberate and indiscriminate dumping in the fragile marine environment have taken a heavy toll. Many coastal areas are now seriously threatened or have been transformed into ecological 'dead seas." No longer relatively innocuous bio-degradable substances, the materials now dumped in the ocean are toxic to marine organisms and may contaminate shellfish and fish consumed by humans. The oceans cannot neutralize or render harmless the heavy metals and chemical compounds that are invariably present in today's municipal and industrial wastes.
>
> The toxic waste by-products of our industrial society contained in sewage sludge produce even more severe environmental consequences. Heavy metals and organic compounds, which tend to concentrate in sewage sludge, can kill marine organisms, reduce species vitality and growth and interfere with sensory and reproductive functions. Heavy metals accumulate in the tissues of fish and shellfish in areas surrounding dumpsites. Mercury and cadmium are particularly dangerous, and almost all sewage sludge currently dumped contains high levels of these and other heavy metals. PCBs and DDT are also cumulative poisons that cause acute and chronic effects at all levels of the marine food chain. Sewage sludge dumping clearly adds to the threat posed by these poisons.
>
> Only recently have scientists begun to understand completely the wealth of the sea's resources and the importance of its role in sustaining all life. The ocean covers over seventy percent of the

earth's surface but most of its resources and bio-mass are concentrated along the coastlines. Approximately ninety-eight percent of the world's fish catch is harvested within two hundred miles of land. The continental shelves which represent only about ten percent of the ocean's area, produce ninety percent of all marine life. (emphasis added)

Ironically, that same two hundred miles is where dumping takes place. If we are to reap an uncontaminated food resource from our coastal waters into the future, if we are to continue to enjoy the richness the ocean coast provides to our lives, ocean dumping must stop now. The cumulative and synergistic effects of the material already dumped is unknown. We cannot gamble with our futures by continuing this practice.

In its 1970 report, Ocean Dumping, A National Policy, the Council on Environmental Quality (CEQ) emphasized that "the volume of waste materials dumped in the ocean is growing rapidly, and "[i]f no action is taken and ocean dumping continues to increase, the long-term damage to the marine environment will be great." The report recommended that ocean dumping be phased out. (U.S. Council on Environmental Quality, Ocean Dumping: A National Policy 12-18 (1970)). In response, Congress passed the Marine Protection, Research and Sanctuaries Act of 1972 often called the Ocean Dumping Act. Later, a 1977 Congressional amendment requested the termination of all harmful sewage sludge dumping by December 31, 1981. Both actions were founded on extensive scientific data demonstrating that the marine environment was deteriorating. Initially, the EPA attempted to phase out this harmful practice. Unfortunately, one aberrant court decision entitled City of New York v EPA, 543 F. Supp. 1084, 1094 (S.D.N.Y. 1981), weakened the original Congressional intent to phase out ocean sludge dumping. The EPA under Ann Burford failed to appeal the decision. Subsequent to the decision, and despite Congressional intent, ocean dumping continues.

In light of the evidence, GSF regrets that the EPA has abandoned its original commitment to phasing out ocean dumping. We urge state and federal representatives to recommit themselves to phasing out this practice. Alternatives exist which should be vigorously pursued.

To be successful, waste management technologies must accord with fundamental principles upon which the planet earth operates. Every ecologic system sustains itself by a pattern of disintegration and reuse. Disposal systems which ignore this fundamental principle will fail. Incineration, landfilling and ocean dumping to a lesser extent, ignore this basic cyclical phenomenon and attempt to impose a linear dead end system -- namely disposal without reuse. Incineration wastes otherwise-reusable resources and can produce toxic ash generally not reusable in the web of life. It can also produce dioxin, a potent carcinogen. Biodegradation and therefore reuse is limited in landfills due to the extreme concentration of waste products there which in turn

can cause groundwater contamination. Similarly, ocean dumping of synthetic and industrial products as well as excessive amounts of organic materials that cannot successfully be used and assimilated in ecosystems is bound to fail as a waste management technique. Further, it is folly to depend on dilution to solve the problem, especially in light of scientific uncertainty, the cumulative effects of toxic materials, synergistic effects, bio-accumulation of toxic materials in the food chain and the fact that one school of scientific thought maintains that for some chemicals no safe threshold of exposure exists.

These approaches are fundamentally flawed because they are dead-end approaches. They should serve as a last resort in a hierarchy of waste management techniques not a first line of defense. They are flawed because they involve waste destruction without reuse. In the case of ocean dumping, they depend on dilution, which is not a solution.

GSF supports the following hierarchy of waste management for your consideration:

I. CHANGING THE NATURE OF THE WASTES WE GENERATE.

First and foremost, society must have the maturity to recognize that it cannot ignore fundamental principles of life. If natural processes cannot break substances down into useful, reusable components, these substances should not be produced! This principle should serve as a guide in choosing waste management techniques. Exceptions should be exceedingly rare, should require substantial justification and should be allowed only where no environmentally-benign alternatives exist. Whether wastes are burned, buried, dumped or composted, if they don't break down and can't be reassimilated, there will eventually be a problem. It is only a matter of time. Where benign alternatives for nonbiodegradable products or products that pollute exist, they should be required by law.

Any disposal of toxic or poisonous material should be heavily taxed even if it is released into the environment within health standards. Such a program of taxation would encourage a policy of nondegradation of the environment rather than the present "poisoning within limits" philosophy which prevails. This program would be technology-forcing. It would become cost-effective to produce products that don't pollute. Products would begin to reflect their true cost to society. Those that pollute would cost more and therefore be purchased less. Finally, the tax money generated could be earmarked to clean up the environment, rehabilitate habitat and replace species that have been destroyed.

II. WASTE REDUCTION.

Legislation should be promulgated which eliminates all unnecessary packaging and industrial waste via tax incentives and fines.

GROUP FOR THE SOUTH FORK

III. MANDATORY RECYCLING.

The federal government should require all municipalities to recycle at least fifty percent of the waste stream, such as newspapers, cans and bottles. Powerful incentives should be promulgated in favor of municipalities and industries that reuse their wastes. The federal government should commit substantial sums of money toward educational programs regarding recycling. Experts in the field have found that the success of recycling efforts is directly proportional to the quality of educational programs. Finally, the federal government has a key role to play in promoting markets for recyclables, which is central to a recycling effort.

IV. SOURCE SEPARATION.

The key to any successful disposal strategy is intense source separation of toxic material from benign. A large part of the wastes produced in this country are actually useful. Waste only becomes a "problem" when it is mixed with poisonous materials or produced in excess of the environment's ability to assimilate it. A lot of the waste stream can be successfully recycled or composted if it is not contaminated by other parts of the waste stream. Source separation takes different forms. For municipalities it may mean that residents must sort their garbage into different categories and that the town have a program to handle each category. Heavy industrial polluters should not be allowed to hook up to sewage treatment plans where their input would result in a release of toxic substances to the environment. Their material should be kept in separate storage tanks and be disposed of separately. This would be just one more incentive to avoid toxic products.

V. COMPOSTING TECHNOLOGIES SHOULD BE IMPLEMENTED AND ENCOURAGED.

Composting has been referred to as the "sleeping giant" and may well be the most promising technology to date. Like recycling, composting follows the natural scheme of decomposition and reuse. The process has been naturally occurring over thousands of years and modern technologies have improved upon nature's processes considerably. If the composting of human septage is to be successful, highly toxic products must be kept out of the wastestream to be composted. Industrial pollutants, medical waste and other material that could compromise compost quality should be collected separately and treated separately. By composting relatively benign materials, a high-quality compost with few environmental problems could be produced. This material could be easily marketed, utilized in nurseries and on farmland. Federal incentives for composting markets would also be advisable.

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VI. LANDFILLING AND INCINERATION SHOULD ONLY BE USED AS A LAST RESORT.

Even if all of the measures listed above were implemented, GSF recognizes that some residue will remain which will have to burned or buried. Indeed, some pathogen-laden material may have to burned to protect the public health. However, landfilling and incineration are linear processes with destructive environmental consequences and therefore should be used as last resorts, not first choices.

CONCLUSION

In sum, for the reasons articulated herein and in light of the existence of superior alternatives, the dumping of sludge, industrial products, contaminated dredge spoil and medical waste must cease. Systems which follow the natural order of disintegration and reuse should be promoted instead. In the words of Jacques Cousteau:

> To fulfill a moral obligation that the legacy of the oceans be continued, our first concern must be devoted to the future. Risks for our progeny must be weighed against anticipated short-term, provincial benefits. We have no right to draw checks to be paid by our descendants. We have no right to sacrifice their fundamental options for present conveniences.

Thank you for your consideration.